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Status of implementation of the information and communications technology strategy for the United Nations Secretariat

Report of the Secretary-General

Summary

The present report, submitted in accordance with paragraph 10 of section I of General Assembly resolution 63/262, provides an update on the status of the Secretary-General's information and communications technology (ICT) strategy (see A/62/793 and Corr.1 and A/62/793/Add.1). The report provides information on progress to date and future work to be carried out, including the outcomes of the ICT structural review, a comprehensive inventory of ICT capacities across the Secretariat resulting in proposals for improving the effectiveness and efficiency of ICT activities. In accordance with section IV of the same resolution and with resolution 63/269, the report also includes a unified ICT disaster recovery plan and business continuity approach.

The goal of the Secretary-General's ICT strategy, comprised of a long-term vision, management priorities and three strategic programmes (in the areas of knowledge management, resource management and infrastructure management), is to overcome the difficulties attributable to a highly fragmented ICT environment and to leverage ICT in order to increase the Organization's effectiveness and efficiency in delivering United Nations services to the global community.

Since the endorsement of the ICT strategy by the General Assembly in its resolution 63/262 in December 2008, the Secretariat has made significant progress in a number of areas that lay the groundwork necessary for the accomplishment of the ICT vision. For example, key ICT governance structures such as the ICT Executive Committee, the ICT Advisory Group and the Office of Information and Communications Technology have been established and are functioning effectively. A number of Organization-wide ICT management policies and standards (for example, a project management framework, investment evaluation methods, reviews

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of ICT budget proposals, etc.) have been promulgated and implemented. In addition, the Secretariat has made substantial progress in a number of strategic initiatives that have either been led or supported by the Office of Information and Communications Technology, including Umoja, Inspira, the Integrated Management Information System (IMIS) upgrade for the harmonization of contracts, support for the capital master plan, the Member States portal, the electronic fuel management system for field missions and customer relationship management systems. The Secretariat has also made progress on the development of a unified ICT disaster recovery plan and business continuity approach, which, once implemented, will contribute to improving the Organization's capabilities to manage emergencies and reduce the associated costs. In addition, the Secretariat has significantly contributed to system-wide ICT harmonization efforts through inter-agency collaboration.

Parallel to these broad-based efforts, the Secretariat has also completed an Organization-wide review of how departments, offices and field missions, including field and political missions, are utilizing ICT resources. The goal of the initiative, called the ICT structural review, was to take a comprehensive inventory of ICT capacities across the Organization and identify opportunities for improvement. The findings of the review show that major opportunities exist for improving the efficiency and effectiveness of global ICT operations. On the basis of the findings, the Secretary-General is proposing that four projects be undertaken from 2011 to 2015 to realize significant improvement opportunities identified. These projects are:

(a) Globalize service desks: implement globalized service desks to improve quality of service and reduce costs;

(b) Streamline data centres: improve server and storage management to increase quality of service and reduce costs;

(c) Rationalize ICT organization: rationalize ICT organization to improve ICT personnel planning, effectiveness and productivity;

(d) Strengthen the Office of Information and Communications Technology: strengthen the functions of the Office of Information and Communications Technology in overseeing strategic ICT activities, reduce fragmentation and promote ICT innovation across the Secretariat.

The proposals arising from the ICT structural review represent a strategic programme to modernize, standardize and streamline the Secretariat's global ICT environment, while simultaneously optimizing the outputs of the global ICT workforce. All four of the proposed projects must work in concert to achieve this goal. The first three projects of the ICT structural review will remove inefficiencies created by decades of fragmented and decentralized ICT operations. Two projects, in particular, to globalize service desks and to streamline data centres, are large scale, complex undertakings that require extensive cooperation and collaboration between the Office of Information and Communications Technology and the affected organizational units throughout all phases of the efforts. The implementation of the fourth proposal, strengthening of the Office of Information and Communications Technology, will put mechanisms in place that will, as the ICT strategy goes forward, prevent the creation of inefficiencies that necessitate higher costs of ICT operations. There are immediate benefits to the Organization during the implementation of all four projects, such as increased service availability and quality and strengthened business continuity.

While acknowledging that significant improvements and enhancements are continually being delivered by all departments and offices, the ICT structural review found that the lack of an Organization-wide approach to systemic issues has resulted in a suboptimal performance as compared to other similar organizations. Without fully implementing these projects, those gaps in performance will worsen, further impairing the Organization in meeting its mission goals.

Once the overall ICT environment has been standardized, excess resources and capacity will be identified, creating opportunities to reduce operational costs and reassign staff to work of higher value. This change will lead to developing effective ICT solutions that increase staff productivity, preserve institutional knowledge and improve alignment with the strategic objectives of the Organization. Failure to invest in these projects will result in a downward spiral of increasing fragmentation, decreasing efficiency and shrinking capacity to implement new solutions in a changing environment, while the overall ICT budget will continue to climb at a significant rate.

It is projected that, if the first three proposed projects are fully funded and successfully executed, they could collectively deliver efficiency gains in the range of $71.3 million to $101.8 million on an annual basis. It is important to note that the full benefits will only be realized after completion of the projects. These projected efficiencies would allow the Organization to meet increased ICT demand or to reassign available staff resources to higher priority functions or other programme areas. Additionally, contractual labour that is currently utilized could ultimately be reduced, and the spending on equipment and licensing costs for hardware and software currently used would be reduced. The total cost of implementing the three proposed projects is estimated at $118.8 million, with the total amount required for the biennium 2010-2011 estimated at $5 million.

The fourth project is proposed to realign and strengthen the organizational capacity of the Office of Information and Communications Technology in a phased approach to further improve its operational effectiveness and efficiency by specifically augmenting ICT resources in high-priority areas where a significant gap exists between the mandate outlined in the ICT strategy versus the resources available. The total cost of strengthening the Office is estimated at $21.9 million, with the total amount required for the biennium 2010-2011 estimated at $3.5 million.

In conclusion, the present report outlines strategic ICT opportunities that will provide the Secretariat with significant improvements in its effectiveness and efficiency and put it in a better position to successfully meet its mission and programme goals into the future.

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I. Introduction

1. Technological advances, particularly the convergence of the Internet, wireless technology, computer systems and software innovation, have led to the recognition of information and communications technology (ICT) as a key resource of many organizations. By strategically harnessing the power of technology, the Secretariat can accelerate the realization of its mission and meet growing commitments in a global environment where technology has become pervasive, enabling the United Nations to be more effective and efficient in carrying out its work. In fact, ICT is well positioned to become a strategic driver for change within the Secretariat and within other organizations of the United Nations system.

2. However, the paradigm shift, wherein ICT plays a critical role in meeting the needs of the Organization and enhances decision-making, has not yet been fully realized. The fact that existing resources, efforts and ongoing initiatives have not been leveraged to the extent possible has affected the ability of the United Nations to achieve the envisaged ICT goals that would benefit the entire Organization. This can, in large part, be attributed to the prevailing highly fragmented organization of ICT activities and resources throughout the Secretariat, which has not only impeded its ability to pursue transformative opportunities, but has unnecessarily increased the cost of ICT operations.

3. It should be recalled that with the adoption of resolution 60/283, in which the General Assembly decided to establish the post of Chief Information Technology Officer at the level of Assistant Secretary-General, the Organization embarked on a reform agenda aimed at addressing the systemic weaknesses in its Secretariat-wide ICT governance, leadership and operations (see A/60/692 and Corr.1, paras. 47-52). At the request of the Assembly, the Secretary-General produced a series of proposals, constituting a comprehensive ICT strategy for the Secretariat (A/62/793 and Corr.1 and A/62/793/Add.1), in which an overall approach and management framework was set out for the Organization's ICT programmes over a five-year time frame. The ICT strategy allows the Secretariat to improve its effectiveness, efficiency, transparency and accountability and to realize the envisaged benefits for both Member States and the Organization.

4. In its resolution 63/262, the General Assembly, further recognizing the strategic importance of ICT, adopted a further series of reform measures on the basis of the Secretary-General's proposals on, inter alia, the ICT strategy for the Secretariat. The Office of Information and Communications Technology was established, effective January 2009, pursuant to the same resolution, as an independent organizational unit to provide strong, central leadership for the development and implementation of Organization-wide ICT programmes that effectively support the mission of the United Nations and its global operations.

5. The overall programmatic goals and related strategies of the Secretariat have been taken into consideration in the implementation of the ICT strategy. For example, the strategy compliments and leverages the key tenets and initiatives of the Secretary-General's global field support strategy (A/64/633), recently endorsed by the General Assembly in its resolution 64/269. Command and control mechanisms and previously agreed upon roles and responsibilities established for field support (see A/62/793 and Add.1) will not be changed through the implementation of the strategy.

6. The present report is submitted pursuant to section I, paragraph 10, of General Assembly resolution 63/262, in which the Assembly requested the Secretary-General to report to it at the main part of its sixty-fifth session on the ICT strategy, including:

(a) Any necessary adjustments to the governance structure to make it simpler and operationally effective as a policy-setting and management instrument;

(b) An update on such management and reporting arrangements;

(c) An in-depth assessment of the organizational arrangement, including the possibility of changing the placement of the Office of Information and Communications Technology in the structure of the Organization;

(d) A comprehensive inventory of information and communications technology capacities across the Secretariat, including dedicated and part-time personnel;

(e) More precisely identified and quantified efficiency gains or benefits expected from the implementation of the information and communications technology strategy;

(f) The methodology and benchmarks used to identify and measure those benefits;

(g) The roles and responsibilities of the Office of the Chief Information Technology Officer and the Department of Field Support regarding information and communications technology activities, including on lines of authority, accountability and the division of labour set out in the new organizational structure.

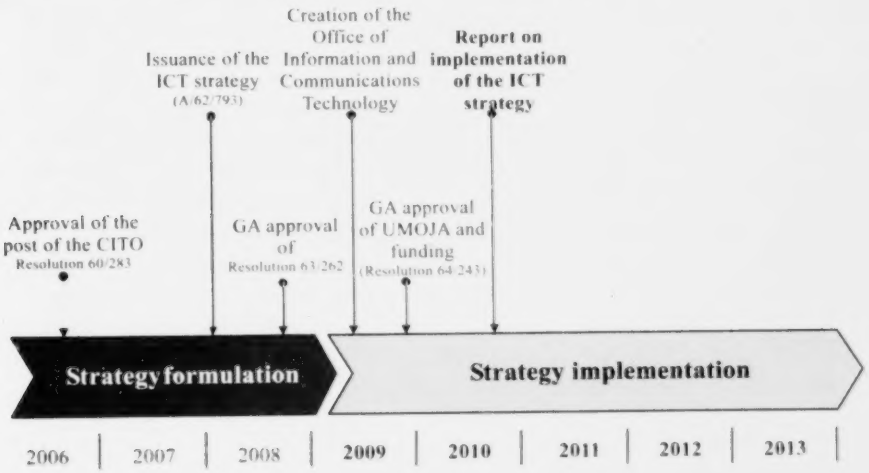
7. In line with those requirements, the present report provides the General Assembly with an overall update on the status of the implementation of the ICT strategy, both in terms of progress achieved and plans envisaged, in relation to how the ICT strategy was originally presented.

8. The present report also outlines the findings of the ICT structural review initiative and the recommendations stemming from it.

9. In addition, the report responds to section IV of resolution 63/262 and to resolution 63/269, in which the General Assembly called for submission of a unified ICT disaster recovery plan with business continuity capabilities.

10. Figure I illustrates the key milestones associated with the formulation and implementation of the ICT strategy.

Figure I
Milestones in the implementation of the ICT strategy



11. To meet the requests of the General Assembly, the report is comprised of the following sections:

(a) Section II provides a brief overview of the ICT strategy and outlines the activities undertaken to date on its delivery, highlighting success areas, efforts under way and the direction that will be taken in the coming years in the area of ICT management and three strategic programmes supporting the needs of the Organization. The unified ICT disaster recovery plan and business continuity approach as well as United Nations system-wide harmonization efforts are also presented in section II;

(b) Section III describes the ICT structural review, an initiative undertaken as part of the ICT strategy, the goal of which is to undertake a comprehensive review of ICT capacities throughout the Secretariat in an effort to rationalize and harmonize ICT operations and structures from an Organization-wide perspective;

(c) In section IV, which sets forth the actions to be taken by the General Assembly, the Secretary-General requests the Assembly to endorse the specific proposals arising from the ICT structural review and the proposed unified ICT disaster recovery plan and business continuity approach described herein.

II. Status of the implementation of the ICT strategy

A. Overview

12. The ICT strategy represents an Organization-wide agreement on the future direction of ICT for the upcoming five-year period. To realize the vision of building "stronger ICT for a better United Nations", the strategy encompasses the following cross-cutting priority areas: the management framework, which includes the development and maintenance of ICT management structures, strategic ICT programme delivery, ICT service and performance management, global architecture

and standards and financial control and reporting of organizational ICT capacities. Strategic programmes consist of three broad categories of initiatives that build upon one another to achieve the vision: (a) the infrastructure management programme provides the foundation for the essential ICT services employed globally by the Secretariat; (b) the resource management programme builds upon the infrastructure management programme to create, process and store information on the Organization's resources and enable their effective and efficient management; and (c) the knowledge management programme depends upon the aforementioned two programmes to provide an enabling environment for capturing, managing and sharing the Organization's information assets.

13. The key components of the strategy are its vision, management framework and strategic programmes (see figure II).

Figure II
ICT strategy

Vision

14. The Secretariat strives to harness the power of ICT to increase its effectiveness and efficiency in delivering the services of the United Nations to the global community. More specifically, the strategy enables ICT to contribute to the Organization in the following areas:

(a) Work: ICT that is aligned with the mission and work programmes of the Secretariat;

(b) People: ICT enables United Nations personnel and their stakeholders to connect and share knowledge anytime, anywhere;

(c) Resources: ICT promotes the efficient use and deployment of institutional resources.

Management framework

15. In order to realize the ICT vision, the Secretariat identified the following five priority areas for significant improvement through the ICT strategy: ICT management structure; strategic programme delivery; service and performance management; global architecture and standards; and financial control and reporting. It is expected that significant improvements in these areas will help establish a global, high-performing, transparent ICT environment throughout the Secretariat.

Strategic programmes

16. The three broad areas of critical ICT needs, namely knowledge management, resource management and infrastructure management, must be addressed in a coherent manner to ensure that they effectively support the substantive activities across the Secretariat.

17. Since the endorsement of the ICT strategy by the General Assembly in December 2008, the Secretariat has made significant progress in its implementation. This report captures the status of the implementation of the ICT strategy as of 30 June 2010. Key ICT management structures (for example, the ICT Executive Committee, the Advisory Group and the Office of Information and Communications Technology) were established and are now functioning effectively. A number of Organization-wide ICT management processes and standards (for example, the project management framework and investment evaluation methods, reviews of ICT budget proposals) have been promulgated to departments, offices and missions. In addition, the Secretariat has made substantial progress in a number of strategic initiatives that have either been led or supported by the Office of Information and Communications Technology, including Umoja, Inspira, the upgrade of IMIS for the harmonization of contracts, support for the capital master plan, the Member States portal, the Electronic Fuel Management System for field missions and customer relationship management systems.

18. The status on the implementation of the ICT strategy in terms of progress to date and future work to be carried out for the 2011-2013 period is provided below. The current status is summarized according to the same categories of strategic activities outlined in the original ICT strategy document: the ICT management framework; the knowledge management programme; the resource management programme; and the infrastructure management programme. The status of the unified ICT disaster recovery plan and business continuity approach, as well as of the United Nations system-wide harmonization efforts is also provided.

B. Status of the ICT management framework

19. The goal of the ICT management framework is to implement the ICT strategy by introducing a series of improvements in ICT management processes and structures. Although resources for this effort have not been fully provided, progress has been made using existing resources, as described below. The following paragraphs summarize the progress made to date and planned activities relating to the ICT management framework. Table 1 provides a summary of this information.

Establishment of the Office of Information and Communications Technology

20. The Office of Information and Communications Technology was established in January 2009 as an independent organizational unit under a separate budget section. The Office was created in a budget-and-staff-neutral manner through the integration of resources from the former Information and Technology Services Division of the Department of Management and part of the Information and Communications Technology Division of the Department of Field Support. Since that time, the Office has been working towards fulfilling its mandates and its Organization-wide responsibilities.

21. With respect to the Department of Field Support, particular attention has been placed on ensuring that it can continue to provide effective support for field missions, while the Office of Information and Communications Technology exercises authority for strategic ICT support for the field under an enterprise approach. Accordingly, clear lines of authority, accountability and the division of labour between the Office and the Department have been established. The separation of roles and responsibilities has worked well, and under the collaborative arrangement, the field missions have begun to realize benefits from the support of a strong, centralized office that focuses on strategic, long-term improvements across the Secretariat through a growing global infrastructure, new enterprise applications, the development of a policy framework, architecture and standardization and the implementation of best practices.

22. This relationship with the Department of Field Support allows for better alignment of the overall ICT strategy, thus ensuring the maintenance and leveraging of common standards among all ICT units of the Secretariat and enhancing synergies among ICT operations across the Organization. The arrangement also presents a unique opportunity to harmonize global field requirements in an innovative manner and has enabled the Office of Information and Communications Technology to proceed with the harmonization of ICT services and the implementation of common ICT policies, standards and solutions for all parts of the Secretariat, including field missions. In particular, the Office has been able to provide the field missions with significant improvements in application development (for example, the fuel management system and the project repository system). Furthermore, the ICT strategy complements the Secretary-General's global field support strategy and leverages existing field support mechanisms.

23. The Office of Information and Communications Technology, as an independent, central ICT organizational unit with sufficient authority, accountability and resources, must carry out a Secretariat-wide ICT mandate and manage significant ICT activities that affect the entire Secretariat in order to ensure the efficient utilization of resources, the modernization of information systems and improvement in the ICT services available to the Organization. The Office requires a strong, independent organizational stance in order to effectively carry out a broad range of strategic activities, including ICT policy formulation, architecture and standards setting, project assessment, structural reviews and performance management. This organizational arrangement has provided the Office with the necessary authority, visibility, objectivity and neutrality. Since the current arrangement has worked effectively to date, the placement of the Office in the structure of the Organization should remain as it is.

Establishment of management oversight committees and advisory bodies

24. The principles and processes associated with ICT decision-making and its underlying organizational structures come together under the broad concept of ICT governance. The ICT management framework clarifies how decisions are made, who provides inputs for the decisions, who is accountable and how ICT activities are coordinated within the Secretariat and ensures that key stakeholders take on the appropriate roles and responsibilities to clearly and effectively guide the management of the Organization's ICT activities and resources. In April 2009, a comprehensive ICT management framework was implemented. The framework, which reflects comments from the General Assembly, is simpler and more operationally effective as a policy setting and management instrument than what was originally proposed in the ICT strategy. The framework established ICT governance structures that include: the ICT Executive Committee, an ICT Advisory Group, ICT programme working groups and local ICT committees. In addition to these committees, an ICT management coordination group, consisting of heads and senior staff of ICT units in departments and offices across the Secretariat, has been established. The coordination group functions as a forum for providing guidance and sharing views on ICT strategic programmes and other Secretariat-wide activities. The group meets every two weeks via videoconference and holds two annual retreats. Within the Office of Information and Communications Technology, a Client Services Unit has been formed with the responsibility to better align ICT activities with the programmes of the Secretariat and to manage the strategic relationship between the Office and other units in the Secretariat.

25. As the most senior manager to lead ICT activities globally in the Secretariat, the Chief Information Technology Officer is accountable to the Secretary-General and reports to the Deputy Secretary-General, who has been delegated by the Secretary-General with responsibility for oversight of the Secretariat-wide ICT activities. The Deputy Secretary-General is also Chair of the ICT Executive Committee, the highest decision-making body on ICT matters in the Secretariat. This arrangement, as well as other governance structures in place, has worked effectively.

Undertake structural reviews of all ICT units

26. In line with the request of the General Assembly, a structural review of all ICT units across the Organization has been conducted in an effort to rationalize and harmonize ICT operations and structures by making recommendations on organizational and other changes to significantly improve the effectiveness and efficiency of global ICT programmes and activities. Detailed findings and recommendations can be found in section III of the present report.

Formulation of the ICT performance management framework

27. To establish clear expectations of ICT services by the user community, a project is under way to develop and implement a standardized global service catalogue. This new catalogue will allow departments, offices and field missions to choose a portfolio of standardized ICT services and service levels with available services and costs clearly outlined.

28. The Office of Information and Communications Technology conducted its second Secretariat-wide ICT survey in 2009, in an effort to gauge user satisfaction

with 12 core ICT services. In general, the results of the survey were consistent with the previous year, showing a slight increase in overall satisfaction with 71.6 per cent in 2009 versus 71.1 per cent in 2008, although not attaining the set target of an 80 per cent satisfaction level. Higher satisfaction levels were found for basic office applications, equipment, telephone and e-mail services and lower levels were found for services such as remote access and training. In an effort to address the concerns, action plans have been prepared in collaboration with the ICT Advisory Group to determine priority areas for improvement. User satisfaction surveys will continue to be conducted by the Client Services Unit of the Office of Information and Communications Technology on an annual basis to measure the performance of ICT services and identify opportunities for improvement.

29. To measure the performance of ICT units against strategic and operational objectives, all heads of local ICT units in the Secretariat were requested to make a revision to their 2009-2010 e-PAS during the mid-point review process to include additional goals and performance expectations relating to the implementation of Organization-wide ICT strategy, policies and standards. While the heads of local ICT units continue to report to their respective departments, and are primarily accountable to their department heads for the accomplishment of departmental programme goals and achievement of ICT departmental objectives, they are also accountable for the implementation of Organization-wide ICT strategy, policies and standards, as directed by the Office of Information and Communications Technology. This is aligned with proposals made in the ICT strategy implementation plan (A/62/793 and Corr.1, paras. 45 and 46). Through this process, its importance is reinforced as a tool to ensure and monitor the quality of service, strategic alignment and compliance with Secretariat-wide policies and procedures on an ongoing basis.

30. The ICT strategy also emphasized the importance of an ICT performance management framework to measure the efficiency and effectiveness of delivering ICT services. In 2011, the Office of Information and Communications Technology will implement an ICT performance management framework that will provide transparent and timely access to information on ICT performance. The framework will allow for the monitoring, measurement and evaluation of the performance of ICT units against established goals, objectives, budgetary targets, key performance indicators and industry benchmarks. Initial efforts to establish the ICT performance management baseline were undertaken in early 2010, as part of the ICT structural review, by collecting various performance metrics from ICT units.

Development of an ICT budgetary and portfolio management framework

31. To improve alignment of ICT initiatives with the Organization's operational objectives and as part of its role in overseeing the global management of technology, the development of an ICT budgetary and portfolio management framework is under way. The framework will be used to enforce financial discipline, accountability and transparency for all ICT spending throughout the Secretariat. The implementation of the ICT budgetary and portfolio management framework involves a number of key steps, including working in conjunction with the Office of Programme Planning, Budget and Accounts to modify certain aspects of the budget preparation process and guidelines that will provide further clarity into ICT budgets and expenditures. The development of an enterprise tool to support the framework is under way and will eventually be deployed to all ICT units throughout the Organization.

32. Additionally, a process for the technical review of ICT budgets by the Office of Information and Communications Technology was put in place for the biennium 2010-2011. In accordance with a recommendation by the Office of Internal Oversight Services, an industry-standard best practices project management framework, overseen by a dedicated project management office within the Office of Information and Communications Technology, was formed, enabling a more rigorous review of ICT investment proposals. Prior to budget submissions to the Controller, the Office reviews, from a technical perspective, the departmental ICT budgets as well as related investment proposals from the regular budget, extrabudgetary and the support account for peacekeeping operations in order to avoid the duplication of efforts and evaluate the costs, benefits and risks associated with ICT budget requests. The Office will conduct the same review process in the future for peacekeeping budgets, recognizing that individual heads of missions retain full control, responsibility and accountability for field resources.

33. The three ICT programme working groups, on knowledge management, resource management and infrastructure management, which were set up as part of the ICT management framework, also review investment proposals relating to their respective strategic programmes from all funding sources. Furthermore, the e-Portfolio application, a comprehensive project/portfolio management tool, was rolled out to peacekeeping missions, offices away from Headquarters, tribunals and departments at Headquarters in early 2010. It is planned that the tool will support automated planning and management of ICT investments by providing the Organization with a comprehensive, integrated system that combines top-down portfolio planning and analysis with bottom-up project management. It is specifically configured to support the ICT investment governance framework and to enable senior management to oversee and guide project portfolios at various levels.

Investments of long-term horizon, including ICT activities

34. It should be noted that as the Organization implements investments of long-term horizon, including ICT activities, there could be potential to consider arrangements to facilitate such investments. As the United Nations adopts the International Public Sector Accounting Standards, the Secretariat will continue to analyse possible implications of accrual budgeting concepts.

Multi-year special account

35. In view of the lifespan of project implementation over a five-year period, it is proposed that a multi-year special account be established to record income and expenditures for the three projects (also known as the ICT structural review), inter-alia, globalization of service desks, streamlining of data centres and rationalization of ICT organization. It will be recalled that similar arrangements had been authorized in connection with the financial management of the Umoja project as well as various construction and/or major improvement projects. Funds provided for the ICT structural review and resulting expenditures will therefore be recorded in a separate ICT structural review fund and any unexpended balances will be carried forward into succeeding bienniums until the project is completed. Interest earned on the ICT structural review fund will be credited to that Fund.

Establish strategic oversight of ICT activities at the United Nations Logistics Base at Brindisi, Italy

36. The ICT facilities at the United Nations Logistics Base (UNLB), which are used to serve field missions, can be leveraged to provide additional services to the entire Organization. The facilities will soon become the global hub for a number of Secretariat-wide ICT activities. The strategy envisions that UNLB will host all enterprise systems (e.g., knowledge management systems and the enterprise resource planning system), enhance global connectivity and improve business continuity operations by serving as a host for backup systems and data for all departments, offices and field missions across the Secretariat. In line with that objective, the Office of Information and Communications Technology has worked closely with the Department of Field Support to leverage and enhance the ICT facilities at UNLB and establish proper service levels and cost-sharing arrangements. This work is currently under way and will be developed into a well integrated partnership in the coming year.

Implement result of structural reviews

37. The status on the implementation of the ICT structural review is included in section III below.

Global architecture and standards

38. Internally developed architecture and technology standards establish measurable controls and requirements that offer a number of benefits and greatly facilitate the implementation and maintenance of "enterprise architecture". Architecture and standards are based on a core set of organizational goals and principles (such as interoperability and security) that balance opportunities and risks for the good of the entire organization. Standardization of hardware and software improves ICT operations performance, reduces cost (particularly in acquisition, development, training and maintenance), allows the leveraging of resources, enhances reliability and predictability and contributes to improved interoperability and integration. Categories of standards include a "research standard", which provides the flexibility to evaluate (on a limited basis) emerging technologies that have the potential to evolve into a "formal standard". There have been changes to the manner in which standards for technologies are adopted and extended since the establishment of the Office of Information and Communications Technology. A new review and approval process for the adoption and extension of ICT standards was defined, agreed upon and implemented in 2009, on the basis of the work completed by an Organization-wide standards task force. As these changes took some time to be agreed upon and implemented, the Office concentrated on extending a number of standards to ensure that urgently needed procurement actions were not negatively impacted by the expiration of existing standards. The Office continues to work closely with the Procurement Division in order to ensure that all relevant information, such as extension or approval of standards, is immediately communicated to minimize or prevent disruptions in the procurement process. Continued collaboration is planned to ensure that ICT standards are adhered to operationally in the procurement of goods throughout the Organization.

39. Work on an overarching information security framework was that leverages existing policies and guidelines and adds new information security requirements in

response to changing technologies and work processes was started in 2009. Information security requirements have also been incorporated into the proposal process for new projects to ensure more consistent application of robust and appropriate security requirements during the development of new systems.

Other initiatives

40. The ICT "fast forward programme", launched by the Office of Information and Communicat Technology in late 2008, aims to facilitate rapid ICT solutions that are aligned w nstitutional needs and/or to improve the working life of staff and the larger Unite Nations community. Fast forward initiatives are proposed by ICT units from across the Secretariat and are implemented in 90 days or less, with the aim of encouraging innovative, team collaboration among ICT personnel. The third round of initiatives has been selected and the projects are currently under way. Initiatives that have been implemented thus far include "myUNcalls" for online call management, iSeek global Intranet access to United Nations offices in remote locations, a Member States portal (deleGATE) and an ICT sustainability initiative.

Table 1
Status of ICT management framework

Management framework for ICT		
Goal		
Continue the implementation of the ICT strategy.		
Objectives		
• Strengthen the Office of Information and Communications Technology • Rationalize ICT organization		• Complete the formation of management oversight committees and advisory bodies • Develop ICT financial management and performance management standards
Key activities	*Progress (2009-2010)*	*Planned (2011-2013)[a]*
Establishment of the Office of Information and Communications Technology		
Create the Office of Information and Communications Technology by integrating the Information Technology Services Division of the Department of Management and part of the Information and Communications Technology Division	Established effective January 2009 Established a change management function within the Office in late 2009	Strengthen the Office and establish cross-cutting ICT functions (near term)
Establishment of management oversight committees and advisory bodies		
Develop the terms of reference, structure and membership of the Secretariat bodies that will formally oversee and advise the Office of	Implemented a comprehensive ICT management framework in April 2009 Formed ICT Executive Committee,	Establish local ICT committees in each department/office/field mission (near term)

Information and Communications Technology	ICT Advisory Group, ICT programme working groups and ICT management coordination groups	
Undertake structural reviews of all ICT units		
Perform operational reviews of ICT units in departments at Headquarters, offices away from Headquarters and in the field	Completed a structural review of all ICT units, including missions	Undertake small-scale structural reviews for high pay-off areas, as required (medium term)
Create the ICT performance management framework		
Develop measurement standards, benchmarks and reporting systems to track the performance of ICT units	Established performance management baseline and benchmarks	Establish a global performance management function in the Office of Information and Communications Technology (near term) Complete development of a global service catalogue (near term) Establish a global performance management framework (near term)
Develop budgetary and financial management framework		
Design ICT global budgetary process and templates. Centralize purchasing demand and procurement activities	Established a project management framework Reviewed Secretariat-wide ICT budget proposals from the regular budget, extrabudgetary and support account for peacekeeping operations	Implement a global ICT budgetary and portfolio management framework (near term) Establish a global ICT budgetary and portfolio management function in the Office of Information and Communications Technology and start reviewing ICT budget proposals from peacekeeping budget (near term) Establish multi-year technology fund (medium term)
Establish strategic oversight of ICT activities at UNLB		
Leverage ICT facilities at UNLB and in Valencia, Spain, to benefit the Secretariat as a whole	Worked with the Department of Field Support to share the ICT facilities at UNLB and establish proper service levels and cost-sharing arrangements	Formalize service levels and cost-sharing arrangements in the coming year (near term)

Implement result of structural reviews		
Improve organizational structure for the Office of Information and Communications Technology and other ICT units	Created detailed business cases and plans for the projects resulting from the structural review	Implement two projects resulting from the structural review: Rationalize ICT organization (long term) Strengthen the Office of Information and Communications Technology (near term)
Global architecture and standards		
Integrate ICT and business planning and establish enterprise-wide ICT standards	Integrated information security requirements in the ICT project management framework	Establish information security framework (near term) Establish enterprise architecture function in the Office of Information and Communications Technology (near term)

[a] Time frame for completion: near term — 2011; medium term — 2012; long term — 2012 or after.

C. Status of strategic programmes

41. The ICT strategy has been and will continue to be implemented through three strategic programmes with significant Organization-wide impact. Each programme is comprised of a group of initiatives that have been or will be undertaken in accordance with the strategy to achieve the long-term vision that has been articulated and their relative priorities. The strategic programmes deliver value to the Secretariat by serving as a framework for organizing, prioritizing and coordinating Organization-wide ICT initiatives regardless of where they originate, are funded or are carried out. It should be noted that a request for funding from the regular budget for the resource management and knowledge management strategic programmes was made in the reports of the Secretary-General on ICT and enterprise systems for the United Nations Secretariat worldwide (A/62/510/Rev.1) and on enterprise content management and customer relationship management systems, including revised estimates (A/64/477). While the General Assembly reiterated its prior endorsement of these programmes, it decided to defer funding, which slowed progress on knowledge management initiatives such as enterprise content management and resource management initiatives, including customer relationship management, which were already under way. A more balanced approach to allocating funds is needed to ensure that ICT investments are aligned with organizational priorities across all three strategic programmes, in particular for the knowledge management programme. The following sections cover progress made to date and planned activities relating to the implementation of the three programmes. Tables 2, 3 and 4 provide a summary of this information.

1. Knowledge management programme

42. The goal of the knowledge management programme is to provide an effective collaborative environment in which United Nations personnel and their stakeholders

capture, share and own the substantive knowledge relevant to their field of expertise. The following paragraphs provide a high-level summary of the progress made to date and planned activities related to the knowledge management programme by the staff of the Knowledge Management Service within the Office of Information and Communications Technology and/or staff in other units throughout the Secretariat. Table 2 provides a summary of this information.

43. With representation from departments, offices and entities throughout the Organization, the Working Group on Knowledge Management is responsible for developing the strategic direction, policies, standards, guidelines and procedures for knowledge management and related initiatives. Two foundational components to the ICT strategy are the definition of core metadata, which was adopted by the Working Group, and having basic content management capabilities, which are being developed by a task team overseeing a project utilizing the common content management platform. The platform is a starting point for basic content management and is planned to be a file-sharing replacement for all United Nations documents and other content that needs to be shared, secured and stored. In addition, an electronic scanning solution is included as well as offline access and integration with standard desktop word processing and related office tools.

44. Case management complements the basic capabilities of the management platform by adding structured procedural management of information across a wide range of processes, including correspondence management, administrative management, investigative activities, audit responses, legal processes, document management and others. The Office of Information and Communications Technology is implementing case management capabilities that enable the Organization to respond to outside events in a process-driven and consistent manner, allowing for management of information-intensive activities while capturing appropriate institutional knowledge. "Smart office", one of the main initiatives in this area, enables business activities to be structured through workflows while capturing all appropriate institutional information. By structuring and recording workflows, the thought processes and decisions related to creation of documents are also captured, providing valuable information to the Organization in the future.

45. Progress has been made in providing an effective collaborative environment, through the launch of eRoom, a web-based common workspace tool that enables the effective sharing of information and ideas among dispersed teams, where documents can be authored collaboratively and accessed remotely. Following a successful pilot within the Office of Information and Communications Technology, eRoom was rolled out to a number of departments and offices in the Secretariat, as well as to delegates (CandiWeb, the Advisory Committee on Administrative and Budgetary Questions and the Fifth and Sixth Committees). The next steps in providing collaboration and sharing tools will focus on offering Web 2.0 tools to support enhanced collaboration and facilitation of communities of practice. Similarly, social networking tools will be introduced that will allow Secretariat staff to create their own profiles and start their own networks made up of colleagues sharing a common interest. These tools will also support "blog" and "wiki" websites to allow for views to be shared and for content to be created collaboratively. Collaborative tools will be progressively introduced at Headquarters, offices away from Headquarters and regional commissions, while their introduction in peacekeeping missions will be coordinated through the Department of Field Support.

46. Facilitated by the Office of Information and Communications Technology, the ICT Working Group on Knowledge Management initiated the web content management task team to tactically align technologies, tools and techniques for the web content management of United Nations websites. Efforts to develop and deploy a platform that will facilitate the production of harmonized online web content, with related workflows and approval processes, will continue into the next biennium. Through the work of departments such as the Department of Public Information, the Department of Peacekeeping Operations and the Department of Economic and Social Affairs, and in coordination with others, this initiative will help control brand proliferation through the use of common technology, policies, standards and procedures and by leveraging experience and knowledge gained in the overhaul and creation of smaller websites.

Table 2
Status of the knowledge management programme

Focus, rationale and time frame of the knowledge management programme		
Goal		
Provide an effective collaborative environment in which United Nations personnel and their stakeholders capture, share and own the substantive knowledge relevant to their expertise.		
Objectives		
• Retain institutional knowledge • Facilitate and enhance knowledge-sharing and collaboration • Improve organization, accessibility and usability of information • Utilize open-source solutions where appropriate • Improve websites and web-content management • Improve and enhance analytical and decision support capabilities • Improve information management policies and processes		
Key activities	*Progress (2009-2010)*	*Planned (2011-2013)*[a]
Digitization		
Digitize paper documents in conjunction with the capital master plan	Formulated digitization guidelines for the capital master plan Implemented digitization projects in some departments and offices	Implement digitization as part of the common platform developed for standardized management of United Nations documents (common content management platform project) (medium term) Undertake bulk scanning projects based on availability of funds (medium term)
Portal for Member States		
Implement a portal to provide Member States with the tools to locate, use and exchange information and data	Launched deleGATE, a portal for Member States in September 2008	Develop portal with richer content; upgrade platform as necessary; expand the portal to other duty stations (long term)

Information management policy		
Establish Secretariat-wide information management policies, processes and standards. Includes security, taxonomy, retention etc.	Established the ICT Working Group on Knowledge Management Adopted organization-wide core metadata set	Define and develop information management policies, processes, standards and procedures through the ICT Working Group on Knowledge Management (long term) Implement information management policy and guidelines through development and rollout of a common content management platform across the Secretariat. (medium term)
Web content management		
Transform the United Nations website (www.un.org) into a rich, multimedia knowledge-sharing platform. Provide for consistent user interface, robust search and improved content management	Initiated work on selection of web content management standard tool	Pilot a web content management system (medium term) Develop information architecture (medium term) Implement the enterprise portal to standardize web portal tools (medium term)
Create a collaborative and sharing environment		
Introduce enhanced tools for collaboration and for sharing of information	Completed eRoom pilot in the Office of Information and Communications Technology Deployed eRoom for Secretariat staff and delegates Adopted standard collaboration tool	Rollout a standard collaboration tool Secretariat-wide (medium term) Implement Web 2.0 and social networking tools (long term) Increase the capacity of available technologies that facilitate teamwork (medium term)
Data gateway (UNdata)		
Promote and support a United Nations system-wide gateway for sharing statistical information	Completed UNdata pilot for Millennium Development Goals indicators Implemented UNdata as a web platform for uniformed statistical data access	Continue to make UNdata available for complete download using SDMX (near term) Improve UNdata by including country level data sets, high frequency data and statistical domains not yet covered (long term)

Web content management, Secretariat-wide

Migrate other Secretariat-wide websites (iSeek, United Nations Public Administration Network (UNPAN), My UN etc.), to the new web-content management environment	Initiated work on selection of web content management standard tool Defined common taxonomy for websites of the regional commissions	Deploy web content management to the United Nations Environment Programme, the Department of Economic and Social Affairs and other departments (near term) Deploy web content management to iSeek and UNPAN (medium term) Secretariat-wide deployment of web content management (long term)

Digital asset management

Implement advanced digital asset management capabilities	Initiated capital master plan digital asset management project for the Department of Public Information, the Department for General Assembly and Conference Management and the Department of Management/Office of Central Support Services	Implement enterprise multimedia management system (long term)

Document management

Implement a Secretariat-wide content management facility to manage official documents, records and business correspondence. Design and implement workflow and processes. Migrate content from ODS and other content repositories	Enhancement of the Official Document System (ODS) into a more robust and reliable platform through a stabilization project Adopted standard document management tool	Develop and begin deployment of a common content management platform (near term) Deploy the common content management platform to all duty stations (medium term) Complete "smart office" case management for correspondence, start deployment and expand its features for broader case management (near term) Deploy "smart office" case management to all duty stations (medium term) Develop and deploy field missions enterprise applications for "policy and practice" and reporting framework (near term)

		Broaden scope of ODS, redesign document business processes and migrate ODS content to enterprise content management technology (long term)
Enterprise portal		
Implement an enterprise portal facility to enable user interface customization, simplify access and provide a single sign-on capability	Piloted enterprise information portal in select field missions Adopted standard enterprise portal tool	Secretariat-wide roll-out of enterprise information portal (medium term)
Enterprise search		
Implement an enterprise search engine to improve accessibility to information across all media types	Enhancement of ODS through deployment of an easier and faster search functionality Enterprise search not implemented due to lack of resources	Rollout enterprise search Secretariat-wide (long term)
Archives and record management		
Enhance institutional record management and archival capabilities	Implemented records management best practices in the context of the capital master plan moves	Initiate deployment of records management functionalities with the common content management platform (near term) Pilot deployment of records management system at UN-Habitat (near term) Establish a records management function in the Office of Information and Communications Technology (near term)
Knowledge hubs		
Create knowledge hubs for specific communities of practice, regional groups, specialized thematic areas etc.	Deployed communities of practice in field missions and some departments	Deploy knowledge hubs and communities of practice at the enterprise level (medium term)

[*] Time frame for completion: near term — 2011; medium term — 2012; long term — 2012 or after.

2. Resource management programme

47. The goal of the resource management programme is to support management reform by providing institutional technological capabilities for effectively managing human, financial and physical resources. The following paragraphs provide a high-level summary of the progress made to date and planned activities related to the resource management programme by the staff of the Resource Management Service within the Office of Information and Communications Technology and/or staff in

other units throughout the Secretariat. Table 3 provides a summary of this information.

48. The Office of Information and Communications Technology has continued to work closely with other departments and offices that are involved in resource management programme efforts throughout the Secretariat. While the Umoja project, which encompasses the implementation of an enterprise resource planning system, is currently focusing on business process re-engineering, it has also begun to address planning of a smooth transition from existing related ICT systems to a single, global system. The Umoja team is working with the Office of Information and Communications Technology, the Department of Field Support/Information and Communications Technology Division and other ICT entities Secretariat-wide to catalogue and analyse existing systems, their functions, the data elements they manage and the processes they support. This activity complements and is being conducted in harmony with the ICT structural review initiative. A major initiative led by the Department of Management/Office of Human Resources Management resulted in the phased implementation of the new talent management system, Inspira. All new job openings are being managed through the new system, while Galaxy will continue to be used for existing vacancy announcements until it is gradually phased out. Performance management functionality has also been implemented for a pilot group and, starting next year, all staff will be using the new performance management functionality of Inspira, with the current e-PAS system being gradually phased out. In 2007, the Department for General Assembly and Conference Management launched an integrated conference management system (iCMS) initiative comprised of three projects, with the goal of supporting the efficient planning and delivery of conference services throughout the Secretariat through standardization of business processes and replacement of multiple redundant systems.

49. Customer relationship management consists of the processes and supporting technology used to track and organize user information and their interactions with various service providers. The Secretariat's main customer relationship management initiative, iNeed, seeks to implement a service-delivery and workflow-based application to standardize and improve the handling of numerous services, in an effort to improve their quality and reduce costs through efficient management of resources. The initial deployment of iNeed is being used to manage the ICT services for the Office of Information and Communications Technology and the Department of Field Support at Headquarters and UNLB, the United Nations Interim Force in Lebanon and the United Nations Mission in Liberia. The Facilities and Commercial Services Division of the Department of Management is also using iNeed for managing facilities-related services at Headquarters. Customer relationship management technology has also been used to implement an integrated contact and scheduling system for the Executive Office of the Secretary-General, facilitating the scheduling of his daily calendar and the management of all his contacts. It is also being used to design a single enterprise platform for peacekeeping operations and Headquarters to facilitate the management of contingent-owned equipment. This project will reduce manual data entry by automatically importing memorandum of understanding data, simplifying inspection data recording and exporting inspection data to reimbursement systems, resulting in improved information flow between administrators and the field, real-time access to inspection data and timeliness of reimbursements. The project is currently being developed. A gap analysis and

functional and technical design have been completed. The deployment to selected peacekeeping missions is planned for early 2011, which will be followed by implementations in the rest of the missions, subject to the availability of resources.

50. The Office of Information and Communications Technology led the implementation of ePortfolio, an enterprise portfolio management system that supports planning and management of ICT investments by providing the Organization with a comprehensive, integrated view of ICT project activities. This will facilitate better control over fragmented system development, promote standardization, forecast technology demands, provide status updates, assist in creation of budgets, optimize ICT assets and enhance sharing of ICT resources across the United Nations. The Office also implemented an enterprise identity management system at Headquarters as the first step in a progressive process to improve the management of security within the Secretariat's systems. The management system addresses a major business risk associated with a lack of integrated real-time systems that store, search and retrieve identity information throughout the Secretariat.

51. Notable progress has been made in support of peacekeeping operations, such as development of the electronic fuel management system project, which automates the recording of fuel transactions, optimizes fuel management capacity in field operations and reduces wastage and loss by enhancing control and visibility. The new system will provide accurate tracking of fuel, eliminate the need for manual error-prone record keeping, prevent theft through online monitoring of fuel stock and improve accountability for fuel operations. Additionally, the rebidding process to select a vendor is currently under way for the acquisition of an envisaged standard rations management system to establish a single global standardized information management system for food rations which will fully automate the ordering, inventory tracking, invoice matching and overall contract administration functions in field operations. The Organization had previously initiated the acquisition of a commercial food control system. However, owing to legal issues involving the previously selected vendor, the procurement process was delayed. The Office of Information and Communications Technology and the Department of Field Support are planning to proceed with implementation of this system in all peacekeeping missions in the 2010-2012 period. Finally, the work of the local committees on contracts in peacekeeping missions has been greatly facilitated by the enhancement of the supporting system "eCC", which simplifies the creation, review and approval of procurement cases.

Table 3
Status of resource management programme

Focus, rationale and time frame of the knowledge management programme
Goal
Support management reform by providing institutional capabilities for effectively managing human, financial and physical resources.
Objectives
• Increase transparency, accountability and results • Improve administrative policies, processes and coordination • Increase staff learning and capacity-building • Improve delivery of services, including conference services

- Manage resources more efficiently
- Make informed decisions based on reliable and timely data
- Utilize open-source solutions where appropriate
- Enhance staff security
- Strengthen deployment capabilities and effective support for field operations

Key activities	*Progress (2009-2010)*	*Planned (2011-2013)[a]*
Resource management		
Implement enterprise resource management, which will include human resource administration and talent management, financial management and logistical and supply chain management	Upgraded the IMIS human resources module Maintained the Galaxy system Supported the phase I rollout of Inspira Enhanced the electronic system for managing procurement cases of the Committee on Contracts (eCC application) Conducted pilot implementation of the electronic fuel management system at UNIFIL Prepared the roll-out plan for the electronic fuel management system for all field missions Finalized the RFP for the acquisition of the Rations Management System Developed technical solutions for verification of the contingent-owned equipment in field missions	Complete the inventory and analysis of existing applications related to Umoja functionality (near term) Continue planning for the transition from multiple existing applications to Umoja (medium term) Phase out Galaxy (near term) Maintain IMIS (long term) Continue phased implementation of Inspira (medium term) Continue implementation of the electronic fuel management system for field missions in accordance with roll-out plans (near term) Acquire and implement the rations management system for field missions (medium term) Implement automation solutions for supporting inspection and reimbursement processes for contingent-owned equipment (medium term)
Enterprise portfolio management system		
Implement applications to create, manage and align the ICT project and investment portfolio with the business strategy	Adopted CA Clarity software for the enterprise portfolio management system (ePortfolio) Deployed the project portfolio management functionality across the Secretariat for better management of ICT projects and related investments	Ensure that the project portfolio management module of ePortfolio is used by all ICT units (near term) Deploy the application portfolio management functionality of ePortfolio across the Secretariat for managing life cycle and cost of the United Nations enterprise-

	Conducted training workshops for departments, offices at Headquarters, field missions, offices away from Headquarters and the regional commissions	wide systems, departmental and field applications. Conduct application portfolio management training workshops for departments/offices at Headquarters, field missions, offices away from Headquarters and regional commissions (near term)
Conference and meeting management		
Implement a comprehensive system that will provide integrated documentation, translation and logistical support for United Nations meetings and conferences	The Department for General Assembly and Conference Management completed various stages of three projects that form part of this initiative: one project is in the design stage, another is being rolled out at the United Nations Offices at Geneva, Nairobi and Vienna, and the third project is in the evaluation phase	Complete the implementation of the three projects at Headquarters and the United Nations Offices at Geneva, Nairobi and Vienna (medium term) and expand deployment to the regional commissions (long term)
Customer relationship management		
Implement a service-level management process to improve the delivery of information technology services and to comply with the Information Technology Infrastructure Library and international standards for service delivery. Implement a global request management system to improve the delivery of ICT and facility services. Provide customer self-service capabilities, where appropriate. Implement an integrated contract, meeting, trip and event management and scheduling system for the Office of the Secretary-General	Implemented the first phase of iNeed Implemented the relationship management and scheduling system for the Office of the Secretary-General Developed a solution for facilitating Headquarters and peacekeeping operations in the management of contingent-owned equipment related activities	Deploy iNeed to all offices away from Headquarters and field missions (long term) Implement self-service portal for all iNeed customers (long term) Standardize the service delivery business processes and consolidate the technology solution relating to peacekeeping telecommunications billing (medium term) Leverage the Secretary-General's schedule and relationship management system to provide similar functionality for all senior managers (long term) Deploy the contingent-owned equipment solution initially in selected missions (near term) and then in all missions (medium term)

Security system		
Improve and implement comprehensive staff and facility security systems. Implement a global United Nations laissez-passer system to issue and track United Nations passports. Create a single Organization-wide view of travel document data	Implemented the first phase of the enterprise identity management system Identified a specialized solution for the preparation and management of the life cycle of United Nations laissez-passer travel documents	Identify additional sources of authoritative data on users and make them available to all systems that need them (medium term) Integrate enterprise identity management system with existing applications/platforms (long term) Implement single sign-on (long term) Procure and deploy a specialized system for management of the life cycle of United Nations laissez-passers (long term)
Decision support system		
Implement business intelligence tools, including advanced analytics, predictive modelling and ad hoc reporting. Provide managers and staff with easy access to transactional data at the departmental and organizational level	Not implemented enhancements to currently deployed business intelligence tools due to lack of resources and the importance of harmonizing with the implementation of Umoja	Implement minor enhancements to currently deployed business intelligence tools (medium term) Conduct major enterprise-wide review and deployment of business intelligence systems, in conjunction with Umoja (long term)
Space management		
Implement computer-aided facilities management software to support global real estate and space management	Examined and factored into the Umoja requirements the envisaged improvements to facilities management	Provide the capability to optimize real estate forecasting and planning, space utilization, and maintenance and repairs through Umoja (medium term)

[a] Time frame for completion: near term — 2011; medium term — 2012; long term — 2012 or after.

3. Infrastructure management programme

52. The goal of the infrastructure management programme is to strengthen the global ICT infrastructure to support both the knowledge management and resource management programmes and ICT operations throughout the world. It involves the consolidation and standardization of infrastructure components to enable their more predictable and efficient management on a global basis.

53. A consistent, manageable, global infrastructure enables the Secretariat to harmonize its activities with other United Nations organizations and external partners. A comprehensive set of plans that address the requirements of each location and the enterprise as a whole, especially in the ICT-related areas of disaster recovery and business continuity, ensures the continued operation of the Secretariat

during disasters or other organizational disruptions and assists in the protection of resources, including information assets and personnel.

54. Although the level of additional resources provided for the infrastructure management programme is limited, progress has been made in several of its aspects. The following paragraphs provide a summary of the progress made to date and planned activities related to the infrastructure management programme by the staff of the Infrastructure Management Service within the Office of Information and Communications Technology and/or staff in units throughout the Secretariat. Table 4 provides a summary of this information.

55. Much of the focus of the infrastructure management programme in 2009 and 2010 was on the capital master plan project at Headquarters. The Office of Information and Communications Technology oversaw the implementation of new ICT infrastructure in four swing space buildings and three additional buildings, including a new network for data, voice, video, physical security, Internet protocol television, and more services. The Office played a key role during the physical relocation of over 6,000 staff which took place in 2009 and 2010, which involved design, oversight of ICT infrastructure-related construction activity and ongoing support, including the implementation of multifunctional antennas in a number of swing spaces and annex buildings at Headquarters. In addition, network printers have been installed, providing centralized printing facilities, thus reducing the number of individual printers decreasing the Organization's carbon footprint.

56. A major project is under way to replace the current network that connects all major offices (Headquarters and offices away from Headquarters) with one that is more robust and scalable. This will enable the network to meet the future demand of enterprise systems hosted in central locations such as UNLB, and support the growing demand driven by media-rich applications. The new network will also provide increased reliability and efficiency by allowing major offices to communicate directly rather than being routed through central points such as UNLB or Headquarters. This will provide a high degree of resilience in the event of a crisis.

57. The Office of Information and Communications Technology has led a major global initiative to move from traditional telephone systems to one based on the Internet protocol IP Telephony. At the end of the current biennium, six out of the eight major United Nations offices will be upgraded. Once completed, the new system will allow for the harmonization of telephone operations at all offices, improving overall interoperability and the management of telephone services.

58. A comprehensive product "mobile office" was developed and initially deployed in a limited capacity to provide a secure remote access facility for staff to access data and core applications from any location at any time. This leveraged joint efforts between the Office of Information and Communications Technology and the Business Continuity Management Unit of the Department of Management to ensure that the ICT disaster recovery plan complements the work undertaken by the Management Unit for non-ICT-based business continuity planning, covering a wide range of hazards that pose risks to the work of the Secretariat.

59. The Office of Information and Communications Technology and the Department of Safety and Security have collaborated on a common repository for data on staff identity by developing a standardized physical security access control

system for each major duty station. In addition, the Office and the departments have developed a standard for a digital closed circuit television system (CCTV) for all United Nations offices. The new system uses less storage and provides video analytic capability to detect and minimize threats to United Nations buildings. The introduction of the system facilitated cross-training among ICT staff and staff of the Department of Safety and Security, enabling offices to assist each other and to leverage common processes and data, further enhancing overall security capabilities. In addition, the Office has also worked with the Department to replace 70 outdated cameras and to install technology ensuring that all video and alarm events are properly time-stamped.

Table 4
Status of the infrastructure management programme

Focus, rationale and time frame of the infrastructure management programme		
Goal		
Strengthen global ICT infrastructure to effectively support the programmes and operations carried out by the Secretariat throughout the world		
Objectives		
• Improve network connectivity and performance • Improve ICT service desk support • Improve mobile and remote access capabilities • Provide effective support for crisis management and business continuity		• Provide enhanced videoconferencing facilities • Enhance information security and privacy • Improve ICT service delivery • Utilize open-source solutions where appropriate
Key activities	*Progress (2009-2010)*	*Planned (2011-2013)[a]*
Identity management		
Create an authenticated directory of United Nations personnel	Secured data-sharing policy between the Department of Safety and Security and the Office of Information and Communications Technology Implemented the enterprise identity management system infrastructure at Headquarters to support iNeed customer relationship management application	Implement the enterprise identity management system infrastructure with the cooperation of the Department of Safety and Security in consultation with the resource management programme deployment to additional Secretariat duty stations (near term)

Remote access and mobility		
Provide staff with the ability to access the United Nations system from home and while travelling	Deployed mobile office at Headquarters Made remote access capability available at other duty stations, along with mobile telephony	Implement harmonized mobile office and telephony for each major duty station to standardize tools and processes (long term)
Disaster recovery business continuity support		
Provide disaster recovery capabilities and ICT support for business continuity planning	Implemented partially in major duty stations	Implement the Office of Information and Communications Technology Technology Centre at UNLB (near term) Upgrade e-mail, operating system and office productivity suites (near term) Implement "managed" desktop option (medium term)
Internet protocol (IP Telephony) for Headquarters and offices away from Headquarters		
Replace conventional telephone system with an IP-based telephone system	Implemented a standardized IPT at ECLAC, ESCWA and the United Nations Office at Vienna in previous bienniums Installed cabling projects required for IPT at the United Nations Offices at Geneva and Nairobi	Implementation of a standardized IP Telephony system at the Economic Commission for Africa, Headquarters and the United Nations Office at Nairobi (near term) Implementation of a standardized IP Telephony system at the United Nations Office at Geneva (long term)
Infrastructure rationalization		
Continue consolidation, standardization and streamlining of communications and information technology infrastructure	Completed swing space move project related to the capital master plan Established a new secondary technology centre located in Piscataway, New Jersey Consolidated server rooms at Headquarters Began virtualization of servers in 2005. Made significant progress at Headquarters, UNLB and other major duty stations	Complete primary data centre migration to new facility located in the second basement of the North Lawn Conference Building (near term) Implement broadband antenna in swing spaces and annex buildings for cell phone and Blackberry signal strength (near term) Implement infrastructure for a new security command centre (medium term)

	Implemented "dynamic host configuration protocol" at Headquarters to provide mobility for the capital master plan staff relocation Developed a business case to streamline data centres as part of the ICT structural review	Initiate planning for the movement of staff back to the renovated Secretariat building (medium term) Streamline data centres (long term)
Sustainable technology (formerly referred to as green technology)		
Issue policy guidelines for the procurement, use and disposal of technology equipment	Developed the ICT sustainability policy for the acquisition and disposal of ICT equipment, energy saving measures, reduction of paper waste and implementation of sustainable business processes Installed network printers and established double-side printing as standard practice at Headquarters, the United Nations Office at Vienna and other major duty stations Operated mission donation programme of recycled computer equipment	Continue with consolidation of server infrastructure for saving in energy and space (medium term) Continue with the virtualization of servers to reduce carbon footprint in all major duty stations (medium term) Continue with the implementation of telepresence and telecommuting technologies for reducing travel needs and gas emissions (medium term)
Videoconferencing		
Increase the use of videoconferencing and improve capabilities	Many major duty stations have connected videoconference units to the internal network to utilize Internet-based connections rather than traditional voice connections	Provide assistance to the Office of Central Support Services with ICT-based broadcast and audio visual systems (near term) Continue to move from voice-based to Internet-based connections (medium term)
Global service desk		
Establish an around-the-clock global service desk	Developed a business case to globalize service desks as part of the ICT structural review	Consolidate local service desks (medium term) Globalize service desks (long term)
Bandwidth (connectivity)		
Provide improved connectivity to all United Nations departments and offices	Developed an RFP to select a vendor and technology for implementation of a high speed network	Implement MPLS network to connect all Secretariat duty stations; contract for these services will be a systems contract which can be used by entire system (medium term)

	Participated in United Nations system global network study project	
Infrastructure management policy		
Establish Secretariat-wide infrastructure management policies, processes and standards	Formalized the Information Management Working Group	Bring a greater focus on cross-cutting ICT matters with offices away from Headquarters and field missions (near term)

[a] Time frame for completion: near term — 2011; medium term — 2012; long term — 2012 or after.

D. Unified ICT disaster recovery plan and business continuity approach

Background

60. This section presents a unified ICT disaster recovery plan and business continuity approach in accordance with section IV of General Assembly resolution 63/262 and with resolution 63/269. The section also briefly mentions the work done by the Business Continuity Management Unit of the Department of Management, which has since invested considerable efforts in strengthening the Organization's business continuity capabilities in New York and at offices away from Headquarters.

61. In the report of the Secretary-General on revised estimates related to various sections of the proposed programme budget (A/64/472), business continuity management is defined as a holistic management process that identifies potential impacts threatening an organization and the impacts to business operations that those threats, if realized, might cause. Such management provides a framework for building an effective organizational response that safeguards the interests of its key stakeholders, reputation, brand, and value-creating activities. In line with the guidance given by the General Assembly, the Secretariat is adopting a comprehensive emergency management framework for crisis preparedness and response and is currently reviewing procedures to be implemented in this regard, which will be submitted for consideration of the Assembly in a separate report.

62. The crisis preparedness and response service, governed by the Senior Emergency Policy Team, will ensure that common processes, such as risk assessment and developing risk management actions, can be conducted jointly by United Nations departments, offices and field missions in an integrated way that clearly identifies overlaps and links. Another objective of the framework is to plan maintenance, exercise and testing in an integrated way in order to save time and resources. ICT disaster recovery planning and business continuity, as well as crisis management and medical emergency planning, will be unified under this framework, ensuring a harmonized response of the Organization to crisis events. The initial focus of this approach has been at Headquarters, but it will soon be introduced at all duty stations utilizing the same methodology.

Streamlining and consolidating data centres

63. The Secretariat has built and operated ICT infrastructure and facilities in line with the needs of each office/duty station over the past several years. At present, almost every United Nations duty station operates a data centre equipped to suit its needs with the resources available. In addition to the resources devoted to keeping these data centres operating, significant expenditures are directed to ensure that offices are provided with ICT support for disaster recovery planning and business continuity operations.

64. In this regard, the effort to streamline and consolidate a large number of data centres supporting duty stations of the Organization can produce not only significant efficiency gains and savings through economies of scale and a reduction in the number of data centres around the world, but would also result in a more reliable and cost-effective disaster recovery plan and business continuity operation.

65. It is acknowledged that UNLB intends to continue the establishment of the United Nations Support Base in Valencia, Spain (UNSB/Valencia), as a secondary active telecommunications and data centre site for peacekeeping activities, and that it will continue to serve as a communications hub for field operations.

66. The new approach for data centres is based on the proposed establishment of two enterprise data centres, one at UNLB and the other at UNSB/Valencia both of which would be managed and operated by the Department of Field Support under the strategic oversight of the Office of Information and Communications Technology, including a supporting cost-sharing arrangement. The approach also envisions the downsizing of data centres at duty stations in line with the scale of location-specific needs. Under this approach, enterprise data centres would host systems used across all Secretariat duty stations that may be accessed by users regardless of their location. Data centres at duty stations would host systems that cannot be hosted elsewhere, and these systems would be accessed only by local users. The proposal on this new approach for data centres is described in detail in section III below.

67. The above approach is based on the following rationale:

Enterprise data centres

(a) UNLB has the capability to host and can be equipped to host all enterprise systems;

(b) Both UNLB and UNSB are accessible using high-speed fibre connections and both are situated within the spectrum of all currently utilized satellites, thereby minimizing latency;

(c) The Organization has undertaken several initiatives to develop and implement enterprise systems. Within the next few years, enterprise systems will replace many software applications currently operated locally in every duty station. These new enterprise systems include: Umoja, Inspira, iNeed and enterprise content management systems;

(d) Both locations are dependent on separate electrical power and telecommunications grids;

(e) The investments necessary to modify both sites are modest compared to any other alternative that would fit all disaster recovery planning and business continuity requirements.

Data centres at duty stations

(f) Data centres at duty stations would host and support infrastructure and systems which, for technical or business reasons, cannot be hosted elsewhere;

(g) Examples of these systems are/include: building management support systems, perimeter security and surveillance systems, cashier support systems, local electronic mail and related applications, local Intranet and collaboration tools, local communications and telephone billing systems;

(h) Once enterprise applications are deployed and hosted in enterprise data centres, data centres at duty stations should be downsized and configured to suit local requirements.

ICT disaster recovery plan and business continuity approach

68. The major focus of the Secretariat's approach to ICT disaster recovery planning and business continuity and its resource implications are closely related to the integrated global approach for data centres, which are based on the establishment of two enterprise data centres that will host enterprise applications as well as disaster recovery planning and business continuity capabilities for all duty stations of the Organization.

69. The current level of disaster recovery planning and business continuity capabilities differ significantly among United Nations duty stations. Not all duty stations are consistently and uniformly prepared to address major disruptive events without significant loss of data, time or both. In general, field missions, owing to their operational environments, are more advanced in disaster recovery planning and business continuity capabilities. Considering the ever-present risk inherent in field operations, disaster recovery and business continuity is a permanent consideration from the mission planning stages through mission liquidation.

70. The unified ICT disaster recovery plan and business continuity approach will be guided by the following principles:

(a) Minimize loss of information assets: the major driver of the proposed framework is to minimize the loss of data. Lost data is a major cause of disruption for everyday operations and an impediment to sound decision-making during or following times of crisis;

(b) Minimize recovery time: the framework will focus on allowing the Organization to restore and normalize affected operations within the minimum possible time frame following a disruptive event;

(c) Minimize loss of work hours associated with data loss: the aim will be to restore ICT operations in a way in which the data residing in the affected systems will be as current as possible. The recovery point objective, the measure that determines the target maximum amount of lost work hours, will be determined by the nature of the affected systems. Systems which are transaction-intensive and exposed to heavy volume will be addressed under a different, shorter, objective compared to systems that process and store more static data and are therefore less frequently updated;

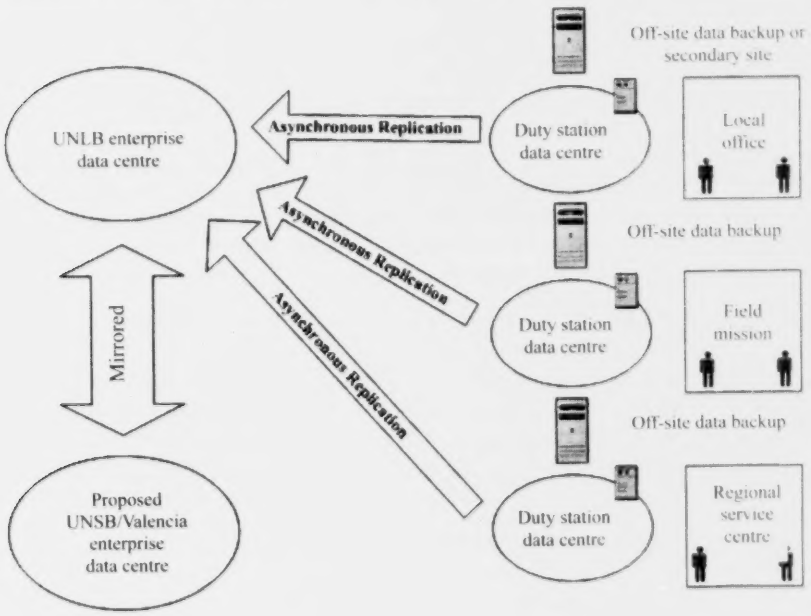
(d) Cost and effort must be proportional to the value and critical nature of information assets. Although the framework is established to protect all information assets, the implementation of specific measures and the investments required will be informed by the value of the specific assets at risk. The recovery point objective, as explained above, is a major cost factor. Systems that need to be recovered with minimal loss of current data generally require replication; the cost of maintaining such replication is much higher than the cost associated with maintaining an asynchronous backup for systems that are less frequently updated;

(e) Cost and effort must be proportional to location risks. The likelihood of an event that could disrupt ICT operations is generally associated with the environment and conditions under which the systems and the infrastructure operate. The measures to be implemented and the related investments need to be proportional to the specific location's assessment of risk;

(f) Leverage and maximize value of existing infrastructure. The Organization has significant infrastructure assets deployed in several duty stations. The implementation of a unified ICT disaster recovery plan and business continuity approach should, to the extent possible, utilize the existing ICT infrastructure. UNLB has the capacity to host backup copies of systems and data that operate locally at every duty station so that, in the event of a large-scale disruption, systems and data may be accessed from an alternate site, once business continuity measures (transport of personnel and related logistics) are completed.

71. Figure III shows the proposed ICT disaster recovery plan and business continuity architecture under which UNLB would serve as the ICT disaster recovery and business continuity site for local systems deployed in duty stations, and UNLB and UNSB/Valencia would serve as enterprise data centres for the entire Organization serve as ICT disaster recovery plan and business continuity sites to each other.

Figure III
ICT disaster recovery plan and business continuity architecture



Next steps in the development of the ICT disaster recovery plan and business continuity approach

72. In order to begin building and implementing the unified ICT disaster recovery plan and business continuity approach, a significant amount of work is still required. The most important steps in this direction relate to the assessment of the value of all of the information systems to be covered. The exercise should assess both the intrinsic value of the information as well as the time-sensitive aspect of its value. Time sensitivity differs widely for information kept by systems that are sporadically updated compared to systems that are subject to a high volume of transactions and for which current data is more critical.

73. The initial inventory of systems has been carried out by the Business Continuity Management Unit of the Department of Management. The Unit has assisted all departments and offices with the development of business continuity plans and, as part of this process, has asked them to prioritize their business processes by recovery time objective. The objective is the target time period during which a business process must be recovered following a disruption. The business continuity plan used four time periods: 0 to 4 hours; 4 to 24 hours; 24 to 72 hours; and over 72 hours. For the purpose of planning business continuity, critical processes were considered to be those with recovery time objectives of 0 to 4 hours and 4 to 24 hours. Once departments had identified their critical processes, they were asked to identify the ICT applications linked to the critical processes as well as the staff needed to perform them. The resulting information was shared with the Office of Information and Communications Technology and fed into the disaster recovery plan and business continuity strategy under development. Based on the analysis, 88 ICT applications have been classified as critical based on their linkage to critical business processes of the Organization. Owing to lack of resources, the analysis of critical applications had to be performed using information on the recovery time objective of business processes as the only indicator. A more thorough analysis of the organization's IT applications, a business impact analysis, which also identifies the recovery point objective, an essential factor in determining preservation and recovery modalities for critical applications, will be conducted soon, in collaboration with the Office of Information and Communications Technology. During a recent mission to the Economic Commission for Latin America and the Caribbean, the Business Continuity Management Unit identified both the recovery time objective and the recovery point objective for the critical applications. The Unit plans to conduct further analyses at Headquarters and at offices away from Headquarters. The Procurement Division of the Secretariat was used as a pilot for the conduct of the analysis in New York, which included identification of critical ICT applications, their recovery time objective and recovery point objective.

74. Upon completion of the identification and prioritization of systems, each must be assessed in terms of the costs associated with its preservation and recovery. Such an assessment will be undertaken by the Office of Information and Communications Technology with assistance from the Business Continuity Management Unit. The cost model to be used will take into account, inter alia, the following: location of software application (system); preferred replication method; recovery time objective; recovery point objective; cost of communications links available between location of system and UNLB; cost of computing and storage infrastructure required to support a replica; cost of available replication software compatible with the

underlying application software; cost of required software licences; cost of application reconfiguration, if applicable; and cost of ongoing support.

75. The ICT disaster recovery plan and business continuity approach has the potential to generate significant efficiencies as a result of economies of scale and the eventual elimination of duplicate application systems and their supporting infrastructure. Nevertheless, the elimination of duplicate applications is, by necessity, a business-driven activity that may take a long time to complete. Until the Office of Information and Communications Technology has the proper enterprise management resources, including ICT strategists and enterprise architects, business process engineers and analysts and business relationship managers, to work effectively with business stakeholders, it is not possible to quantify the scope and full impact of potential efficiency gains. However, as this approach is informed by best practices and documented cases throughout the industry, it is anticipated that savings could be substantial, both in terms of future capital expenditures as well as ongoing support costs.

76. In the specific case of the Secretariat, the proposed framework will make use of existing facilities that can be scaled to fit requirements. Furthermore, through collaboration and service agreements, the facilities proposed could also scale to provide similar services to other entities of the United Nations system. It should be noted that UNLB already provides limited disaster recovery services to the World Food Programme (WFP) and the United Nations Relief and Works Agency for Palestine Refugees in the Near East (UNRWA).

Disaster recovery planning and business continuity measures taken at Headquarters to date

77. As indicated above, the General Assembly, in its resolution 63/269, approved the proposal of the Secretary-General contained in his report on ICT disaster recovery and business continuity for United Nations (A/63/743), to establish a new secondary data centre for United Nations Headquarters in New York to replace the existing secondary data centre in the DC2 Building. This was proposed in order to mitigate risks during the relocation of the primary data centre, as part of the capital master plan project, from its location in the Secretariat Building to its new, permanent location in the North Lawn.

78. The secondary data centre facility located in Piscataway, New Jersey, which became operational during the last quarter of 2009, is providing disaster recovery for a number of core Headquarters applications, including IMIS, Lotus Notes e-mail and Blackberry services. All applications that were listed in the annex of the report (A/63/743) and were hosted in the DC2 Building for the purpose of disaster recovery have been successfully migrated to the new secondary data centre, with backup capability. The secondary data centre project was completed in time to ensure uninterrupted service for systems being relocated during the migration of the primary data centre, thus mitigating risks associated with the move. This interim solution for the secondary data centre is cost-effective and will be re-evaluated, pending the further detailed work that is necessary before the unified ICT disaster recovery plan and business continuity approach can be implemented. In this regard, the General Assembly is requested to endorse an extension of the existing lease for another 30 months beyond 31 December 2011. Subject to endorsement of this

approach by the Assembly, funding to cover the costs associated with operation of the data centre will be requested in the budget submission for 2012-2013.

79. The site preparation for the primary data centre and the infrastructure installation were completed in June 2010; the migration of the primary data centre has commenced and will be completed by the end of 2010. The partial decommission of the existing primary data centre is in progress and will end in September. In terms of the future use of the leased secondary data centre facility in Piscataway, a proposal will be developed upon completion of the business impact analysis that the Business Continuity Management Unit plans to conduct with all departments and offices.

E. United Nations system-wide harmonization efforts

80. One of the objectives set forth following the establishment of the ICT strategy was to increase system-wide harmonization on ICT matters through various inter-agency mechanisms, including the ICT Network of the High-Level Committee on Management of the United Nations System Chief Executives Board for Coordination. This coordination is intended to promote the development of common ICT approaches and solutions for the benefit of the entire United Nations system. The General Assembly, in its resolution 63/262, also encouraged the Secretary-General, as Chairman of the United Nations System Chief Executives Board for Coordination, to foster deeper coordination and collaboration among United Nations organizations in all ICT-related matters.

81. To achieve these objectives, a significant amount of work has been undertaken and is planned in the realm of promoting knowledge sharing, communication among United Nations agencies and common solutions for the common system. Below are a number of examples of system-wide harmonization initiatives in which the Office of Information and Communications Technology has been engaged:

(a) **Crisis information management strategy**. The Crisis Information Management Strategy is based on the recognition that the United Nations, its Member States, constituent agencies and non-governmental organizations need to improve such information management capacity in the identification, prevention, mitigation, response and recovery of all types of crises, natural as well as man-made. The strategy will leverage and enhance this capacity and provide mechanisms to integrate and share information across the United Nations system. The Office of Information and Communications Technology, together with the Office for the Coordination of Humanitarian Affairs, the Department of Peacekeeping Operations and the Department of Field Support, has worked closely with United Nations organizations such as the Office of the United Nations High Commissioner for Refugees (UNHCR), the United Nations Children's Fund (UNICEF), the United Nations Development Programme (UNDP) and WFP and other entities such as the ICT for Peace Foundation in developing and implementing this strategy. It is envisaged that membership will be expanded to include other United Nations organizations in the near future;

(b) **United Nations spatial data infrastructure**. In late 2006, the United Nations Geographic Information Working Group adopted a strategy to implement the spatial data infrastructure concept to promote the use of spatial data in an efficient manner across the United Nations system. In 2008, the Working Group

endorsed an interim United Nations spatial data infrastructure framework as the 2009-2010 road plan for phase I implementation. The aim of the framework is to obtain the approval and agreement of participating United Nations organizations at the senior management level, including for establishing and sponsoring a spatial data infrastructure project from which to provide overarching institutional governance to lead participating United Nations entities in the adoption of geospatial data standards, the development of common and thematic geo-datasets and the provision of interoperable geospatial services. The Secretariat supports the spatial data infrastructure project;

(c) **Common standards and costing approaches for ICT services and investments**. The two primary objectives of the initiative are to achieve a common approach for ICT project business case development and to develop common costing definitions of ICT services and benchmarking on a service by service basis. These efforts are aimed at improving decision-making on ICT investment at the institutional level and establishing capability to more accurately calculate organizational and system-wide costs of operation for ICT activities;

(d) **United Nations system global directory**. The United Nations system is composed of more than 30 organizations. As each organization operates independently, and with a specific mandate, each has developed technical environments to satisfy their individual requirements for data processing and communications, including global networks that link staff members working in almost every country in the world, frequently in remote and inaccessible locations. A United Nations system-wide directory capability has been implemented with the coordination of the United Nations System Chief Executives Board for Coordination, with UNDP as the lead agency, to allow individuals working in United Nations organizations to locate contact details for personnel in other organizations, agencies and geographical locations;

(e) **Common data communications**. A recently completed study on system-wide data communications systems, coordinated by the Chief Executives Board and conducted by the Inter-agency Telecommunications Advisory Group led by the Secretariat, and presented to the High-Level Committee on Management ICT network in 2010, revealed that the United Nations system could achieve significant savings and increased efficiencies through better coordination of these services. Within that framework, a number of data communication initiatives were endorsed and are currently planned or under way;

(f) **Enterprise resource planning coordination**. With many agencies operating extensive enterprise resource planning applications, the United Nations system, facilitated by the Umoja team, has come together to share expertise and practices. Through inter-agency special interest groups that focus on the principal products that are used throughout the system, United Nations organizations are working to harmonize business practices associated with the use of these important business tools and to reduce software costs by adopting system-wide economies of scale.

III. ICT structural review

A. Background

82. The current state of the Secretariat's ICT is the result of the long-standing absence of an Organization-wide, strategic approach to ICT. This has resulted in fragmented processes and a multitude of ICT efforts and resources, which are duplicated throughout the Organization. In today's technology-enabled world, ICT plays an increasingly essential role in our everyday lives as well as in our work environment. The Secretariat is no exception to this mega-trend. Departments, offices and field missions now, more than ever, rely on ICT to meet their strategic goals and sustain their day-to-day operations. It is therefore imperative to reduce the high levels of fragmentation of ICT activities and resources identified in the structural review and outlined herein so that ICT can serve as a strategic enabler in delivering more effective and efficient work programmes and services throughout the Organization.

83. It is important to note although that there have been commendable efforts made on the part of organizational units in the Secretariat that have worked on ICT initiatives over the years, most of the technological capabilities that have been created and are currently supported have grown incrementally over time without Organization-wide guidance or consideration to support their locally driven, individual requirements. This has contributed to a proliferation of stand-alone application systems that often support similar functions and, furthermore, to an even greater proliferation of infrastructure and expenditure of resources to support this wide array of applications systems.

84. The ability to plan, develop and manage strategic ICT activities that affect and benefit the entire Organization was largely absent until the more recent approval of the ICT strategy by the General Assembly and the formation of the Office of Information and Communications Technology.

85. In his report on the ICT strategy (A/62/793 and Corr.1 and A/62/793/Add.1), the Secretary-General proposed a comprehensive review of all ICT units and the implementation of recommendations arising from the review. In its resolution 63/262, the General Assembly requested that the Secretary-General report, at the main part of its sixty-fifth session, on the ICT strategy and provide a comprehensive inventory of ICT capacities across the Secretariat, including dedicated and part-time personnel.

86. In line with the request of the General Assembly, the Office of Information and Communications Technology has undertaken a comprehensive review, the ICT structural review, of all ICT units across the Organization. The goal of the structural review was to assess the current state of ICT and to rationalize and harmonize Secretariat ICT operations and structures by making recommendations on organizational and other strategic changes that will improve the overall effectiveness, efficiency and cohesiveness of ICT operations.

B. Review process

87. In late 2008, the Office of Information and Communications Technology conducted a preliminary survey aimed at understanding ICT staffing levels, the

functions and the workload of approximately 60 departments, offices and field missions throughout the Organization. The survey encompassed a broad view of ICT, reviewing all staff and activities associated with the development, implementation and oversight of processes and technologies that enable management of electronic information such as data, documents, websites and multimedia objects. The survey captured spending and staffing data, hardware assets, including the number of servers and laptops, information about data centre facilities and key workload indicators such as number of user accounts and supported devices (for example computers and Blackberries) as well as human resources staffing tables and organizational charts of ICT units. Proposed organizational unit ICT budget allocations were also requested and reviewed.

88. OICT undertook an in-depth analysis of the 2008 survey data and other collected data and identified major improvement areas, primarily concerning the ICT organizational design and infrastructure operations. The improvement objectives were reviewed by ICT chiefs across the Secretariat. A key finding was that there is a wide variation of ICT job titles and that inconsistency among ICT units is prevalent. It was also clear that the boundaries between ICT and non-ICT jobs were not clearly defined. For example, many units employed ICT business analysts, although their formal job titles did not reflect that of an ICT position, thus blurring the boundary and visibility of ICT resource allocations across the Organization.

89. In 2010, OICT conducted a more comprehensive assessment of over 70 ICT units with the intention of updating previously collected data and requesting additional workload indicator data in order to refine improvement areas and more accurately assess the benefits and costs of potential changes. A new global ICT staffing model was developed and used in the 2010 survey to more precisely understand and quantify the range of ICT functions that were being performed in various duty stations across the Organization.

90. The survey data was compared with public sector industry and Government sector benchmarks from leading information technology research and advisory firms.[1] While the United Nations is unique in its operational model, the benchmark comparisons provided directional input and performance ranges, confirming that high levels of fragmentation and lack of Organization-wide standards and automation have resulted in reduced efficiency, capacity and output in key areas, and in the inefficient utilization of ICT resources.

91. Collected data was used as input for an analysis of detailed benefits and costs of improvement opportunities. Teams comprised of subject-matter experts from ICT units across the Organization analysed the collected data, utilizing their knowledge of the operational environment of the United Nations to define improvement opportunities. Consultations were also held with the Office of Programme Planning, Budget and Accounts and the Office of Human Resources Management to validate data and review project proposals. These proposals were subsequently reviewed by ICT chiefs across the Organization, the ICT Advisory Group and, finally, the ICT Executive Committee.

92. The main findings and recommendations for a number of measures requested for approval by the General Assembly are set out below. The projects recommended

[1] Public sector benchmarks from Gartner and Info-tech were used.

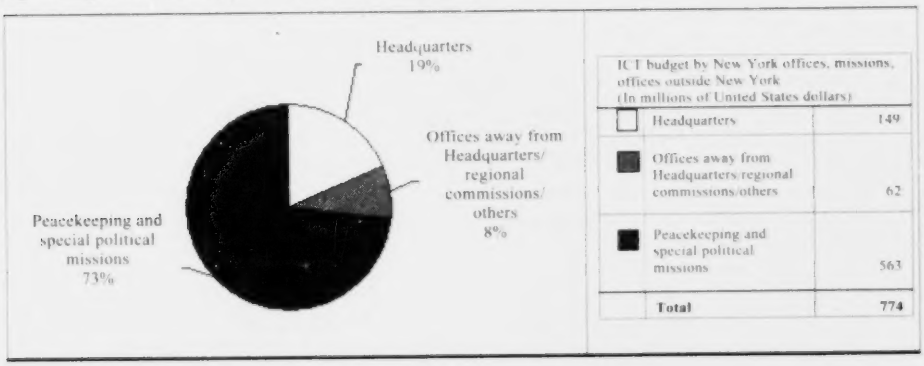
directly support the goals of the strategic programmes within the ICT strategy and are derived from the detailed analysis undertaken in the structural review process.

C. Main findings

93. Overall, the Organization's estimated annualized ICT budget is $774 million.[2] This figure was obtained by combining information from many documents across multiple funding sources to arrive at a single all-encompassing figure. Peacekeeping and support account proposed budgets for the period 1 July 2009 to 30 June 2010, and regular and extrabudgetary sources from the period 2010-2011 were used. A detailed breakdown of the estimated annual budget and data source list is available in annex I.

94. The level of difficulty encountered while attempting to achieve a consolidated budget figure highlights the need for a consistent and streamlined global ICT chart of accounts and a supporting financial system with the capability of tracking the costs of ICT activities on a regular basis. In addition, proposed budgets had to be used instead of approved budgets since approved budgets from certain funding sources do not contain the level of detail necessary to isolate the relevant ICT components for analysis. The inability to easily monitor and report on the Secretariat-wide ICT component of the budget, whether proposed, approved or appropriated, is a serious flaw in the existing budget process that significantly limits the effective global management of ICT.

Figure IV
Total ICT budget
Annualized estimated 2010-2011 ICT budget: 2010-2011
(regular budget, extrabudgetary, peacekeeping and special account)



ICT budget by New York offices, missions, offices outside New York
(In millions of United States dollars)

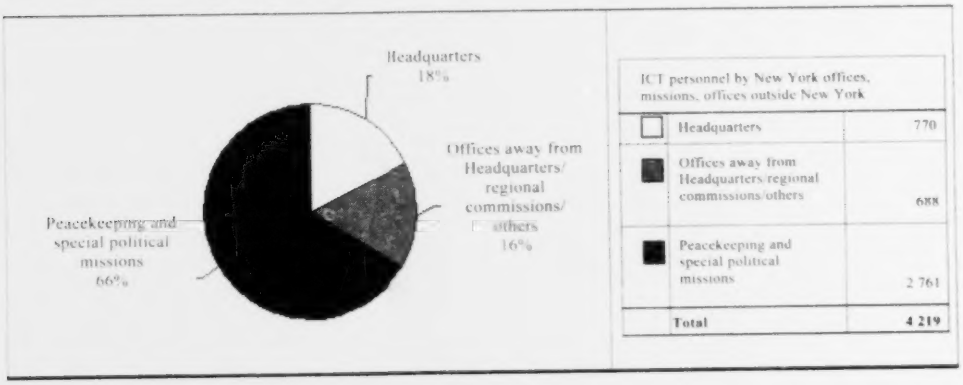
Headquarters	149
Offices away from Headquarters/regional commissions/others	62
Peacekeeping and special political missions	563
Total	**774**

95. Overall, the Organization's total ICT staff count is approximately 4,219. This includes international staff, volunteers and contractual staff. As was the case in assembling the estimated ICT budget, this information was extremely difficult to compile. The lack of standard ICT job titles and the existence of multiple repositories based on the type of personnel (for example, staff vs. consultant) required the creation of a temporary staffing database to enable proper review and

[2] The annualized ICT capital budget represents an additional $58 million, bringing the total to $832 million.

analysis. The total number does not include personnel who perform ICT functions but are not a part of a formal ICT unit or do not hold an ICT job title. A detailed breakdown of staffing information is available in annex II.

Figure V
Total ICT personnel
Estimated figure, includes staff, contractors, consultants



ICT personnel by New York offices, missions, offices outside New York	
Headquarters	770
Offices away from Headquarters/regional commissions/others	688
Peacekeeping and special political missions	2 761
Total	**4 219**

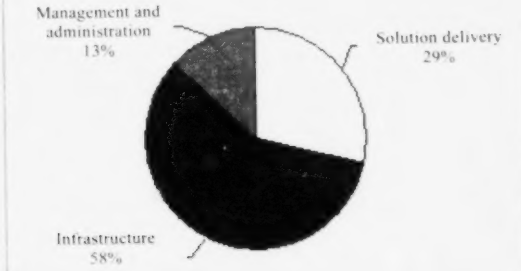
96. A commonly used measurement to determine whether the level of resources allocated to ICT is appropriate is to calculate ICT spending as a percentage of total organizational spending. According to Gartner, large government institutions with an annual operating budget of over $10 billion dollars, on average, spend 5.3 per cent of their budget on ICT.[3] Using the calculated ICT budget above (with the inclusion of annualized capital budgets), the United Nations is currently allocating approximately 5.4 per cent of its annual budget to ICT.

97. While the aggregate ICT budget is broadly within the range of ICT spending of large public organizations, there are certain anomalies that were identified in the structural review that reinforce the need for change. These pertain primarily to the way that ICT resources are allocated and utilized across ICT functional areas. At the highest level, functional ICT areas fall within three main categories: solution delivery; infrastructure; and management and administration. The solution delivery function contains application development and application support functions. This function is responsible for planning, designing and implementing end-user, departmental and enterprise applications. These are the systems and tools which business units leverage to be more productive, improve quality and extend the outreach and impact of their substantive programmes. The infrastructure function contains server and storage management functions, communications, service desk and workstation support functions. This function supports the operations of application systems and voice and data communications. The management and administration function provides the staff management and back-office operations required to provide human resources, finance, logistics, procurement and administrative support to all ICT units.

[3] Gartner, Inc., IT Key Metrics Data, "IT Spending as a Percentage of Enterprise Operational Expenses, by Industry, 2010 (Average)".

98. The following two charts illustrate the current functional breakdown of ICT budgets. Field missions were analysed and separated out due to their heavy concentration on ICT communications activities relative to other ICT activities.

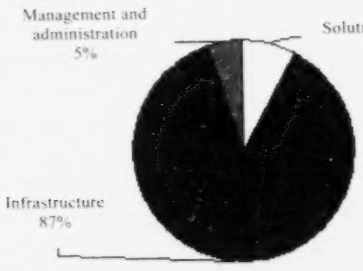
Figure VI
Total annualized 2010-2011 ICT budget by functional area for Headquarters, offices away from Headquarters and others



Total ICT budget by functional area: (Headquarters, offices away from Headquarters and others) (In millions of United States dollars)

Solution delivery	62
Management and administration	27
Infrastructure	122
Total	**211**

Figure VII
Total annualized 2010-2011 ICT budget by functional area for missions



Total ICT budget by functional area: (Missions) (In millions of United States dollars)

Solution delivery	45
Management and administration	28
Infrastructure	490
Total	**563**

99. According to leading industry experts consulted, Gartner and Info-Tech,[4] 39 to 41 per cent of budgeted resources should be allocated to the solution delivery function in a standardized and mature ICT environment. In the first chart above (Headquarters, offices away from Headquarters and others), the total resources devoted to application development and support is merely 29 per cent. Conversely, the proportion of resources allocated to the infrastructure area (58 per cent) is higher than expected.

100. In field missions, a significant portion of resources are devoted to providing basic infrastructure, including satellite and wide area networks (WAN), data centres,

[4] Info-Tech Research Group, "2007-2008 IT budget and staffing report — Government " (January 2007) Gartner, IT Key Metrics Data 2010, Key Applications Measures: Cost and Staff Profile: Multi Year (December 2009).

voice and data communications, Internet connectivity and e-mail. This is due, in part, to the difficult environments many missions must operate in and the non-typical ICT users, such as the military, police and other field-oriented user groups. While the Department of Field Support has applied good management principles that enhance their ability to effectively manage their environment, and has adopted a structure similar to the one that the Office of Information and Communications Technology is proposing for the entire Secretariat, much can be gained by making sure that automation is applied evenly across the Secretariat in order to harmonize the support for all environments. Based on the data collection, only 8 per cent of resources in the field missions are currently allocated to the solution delivery function, which significantly limits the amount of substantive application development and support that can be provided to the missions in carrying out their work. It is envisaged that the proposed projects would, as in other duty stations, free up valuable resources to redirect solution delivery functions to missions, greatly enhancing their ability to carry out their operations effectively.

101. The increased allocation of resources to the infrastructure function in all duty stations is caused by a number of factors, with the predominant factors being excessive workload, environmental conditions, lack of standardized environments and processes and lack of economies of scale. In order to better understand and explain the distribution of ICT resources, the Office of Information and Communications Technology further analysed environmental and workload data from several sources. The findings are as follows:

(a) There are 131 ICT service desks, currently supporting multiple variable workstation environments as well as providing telecommunications support;

(b) There are 211 server rooms/data centres, supporting multiple server environments;

(c) Currently, 80 per cent of ICT staff are working on infrastructure-related areas;

(d) Infrastructure workload statistics are significantly lower than expected given current resource levels and operational scale;

(e) A low level of standardization and automation has led to labour-intensive, non-integrated infrastructure operations in most units;

(f) Despite unique operating environments, related challenges and the atypical overhead costs associated with operating infrastructure, opportunities for improvement still exist within the missions.

102. Table 5 contains additional ICT statistics that were analysed in the structural review study. It was not possible to obtain a more accurate inventory of ICT assets and equipment owing to the lack of underlying systems that track such assets in the Secretariat.

Table 5
Key ICT statistics

Key indicators	*Total*	*Headquarters*	*Offices away from Headquarters, regional commissions, others*	*Peacekeeping and special political missions*
Annual ICT budget (In millions of United States dollars)	774	149	62	563
ICT personnel	4 219	770	688	2 761
ICT job titles	173	—	—	—
ICT units	70	21	15	34
Application programmes	1 994	841	825	328
Physical servers	4 557	888	1 322	2 347
Data centres/server rooms	211	8	89	114
Desktop computers and laptops	83 796	17 244	18 435	48 117
ICT service desks	131	20	27	84
Service desk requests (annual)	1 146 629	292 511	225 597	628 521

103. Further detailed analysis of the functional distribution of ICT resources yielded the following observations (a summary of all key drivers and recommendations are given in table 6):

(a) ICT boundaries are not well defined, that is, it is not clear what constitutes an ICT activity or role;

(b) Current ICT career paths and job descriptions do not reflect evolving ICT demands and industry best practices;

(c) A lack of resources performing strategic, "cross-cutting" functions has limited the ability of the Office of Information and Communications Technology to minimize and reverse the effects of organizational ICT fragmentation and duplication.

D. Recommendations

104. On the basis of the results of the ICT structural review, the Secretariat must invest in one-time projects to standardize and streamline ICT environments across the Organization in order to increase the efficiency of routine ICT activities, including service desk operations and server and storage management, and to enable more resources to be dedicated to activities such as applications development that provide the highest direct value to the United Nations mission. Furthermore, the Secretariat must clearly define and standardize ICT jobs and optimize their placement to ensure that it obtains maximum benefit from the existing global ICT workforce.

105. The Secretariat has identified four projects that will achieve this result. The projects consist of two operational initiatives ("globalize service desks" and "streamline data centres") designed to increase infrastructure efficiency and customer service levels and two strategic initiatives ("rationalize ICT organization" and "strengthen the Office of Information and Communications Technology")

designed to optimize global ICT staffing and allow the Office of Information and Communications Technology to fulfil its mandate by carrying out its strategic cross-cutting programmes and functions more effectively, thus enhancing the Organization's ability to deliver cost-effective, high-impact enterprise solutions. The key drivers and corresponding projects are summarized in table 6.

Table 6
Key findings and recommendations

Key findings	*Recommendations*
131 ICT service desks currently supporting multiple workstation environments; 24x7 service is widely unavailable	**Project 1 — Globalize service desks** **Goal: Implement globalized service desks to improve quality of service and reduce costs**
211 server rooms/data centres; low level of standardization and automation; labour-intensive and costly operations support model	**Project 2 — Streamline data centres** **Goal: Improve server and storage management to increase quality of service and reduce costs**
ICT boundaries are not well defined; current ICT career paths and job descriptions do not reflect evolving ICT demands and best practices	**Project 3 — Rationalize ICT organization** **Goal: Rationalize ICT organization to improve ICT personnel planning, effectiveness and efficiency**
Lack of resources performing strategic, "cross-cutting" functions has limited the ability of the Office of Information and Communications Technology to fulfil its mandate	**Project 4 — Strengthen the Office of Information and Communications Technology** **Goal: Strengthen Office of Information and Communications Technology functions to oversee strategic ICT activities, reduce fragmentation and drive ICT innovation across the Secretariat**

Benefits summary

106. Implementing the ICT structural review projects will result in significant qualitative and quantitative benefits for the Organization, as outlined below.

Qualitative benefits

107. Qualitative benefits provide significant business value by increasing the effectiveness, agility and productivity of departments, offices and missions. These benefits will include one number to call for ICT problems, extended hours of service, quicker response to evolving business needs and more resources for improving business processes and spurring greater innovation across the Secretariat.

108. By providing more effective and efficient infrastructure services, a significant decrease is anticipated in ICT work that is performed by non-ICT staff. In response to shortcomings in the service delivery model, departments and offices often fill in the gaps by reallocating resources away from substantive programmes in an attempt to improve ICT service and to address unmet demand. In addition to negatively impacting substantive work, this results in isolated technical solutions that often prioritize local functionality above enterprise architecture, standards and scalability. Failure to invest adequately in ICT will exacerbate this issue and significantly drive up the hidden costs of ICT operations within the Secretariat, thereby hampering the ability to contain overall growth in departmental budgets across the Secretariat, as well as in ICT budgets.

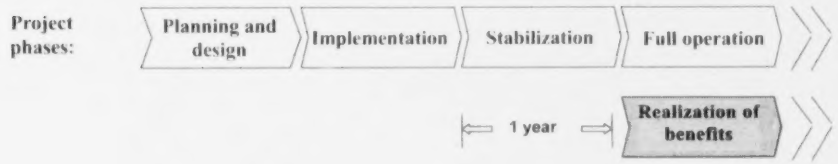
109. Implementation of the ICT structural review projects will provide better accountability and reporting on the composition and relative benefit of ICT investments. The significant productivity and efficiency gains will result in more timely and reliable services provided to the substantive operations of the Secretariat. The introduction of a global ICT staffing model will result in a higher degree of professional development of staff and reduce the degree of ICT work performed by non-ICT personnel. This, in turn, will further increase efficiency and effectiveness and facilitate greater career enhancement and mobility of human resources throughout the Organization.

Quantitative benefits

110. Although implementing these recommendations will require an up-front investment, thorough analysis has revealed many areas in which the Secretariat will reap not only qualitative benefits, but also quantitative benefits as a result of standardizing and consolidating, while vastly improving the quality and availability of ICT services, reducing manual effort, and building staff capabilities and mobility.

111. It should be noted that all figures presented in the project proposals are estimates. The benefits are based on assumptions that, while valid today, may change several years from now. In addition, the benefits are calculated on the basis of existing data sources that are not always complete or fully reliable, in part, because the Secretariat does not currently have the standards, tools and level of automation to provide accurate ICT operational information on a global basis. The potential benefits described here should not be seen as immediate savings and should not be considered in the formulation of future budgets. Any reduction should only be contemplated after full deployment and stabilization of the new processes and structures for the duration of a minimum of one year, and following the subsequent analysis and confirmation of benefits. Figure VIII shows project phases and benefits realization for the "globalize service desks" and "streamline data centres" projects.

Figure VIII
Project phases and benefits realization for the globalize service desks and streamline data centres projects



Conditions of benefit realization

112. Achieving these benefits is based on several important conditions, including full funding of the implementation proposals recommended in the present report, the continued involvement and support of all stakeholders and continued strong ICT governance within the Secretariat.

113. Individual departments cannot be permitted to opt out of globalizing service desks, streamlining data centres or rationalizing the organization of ICT. The benefits outlined in these proposals will be significantly weakened if exceptions are granted since economies of scale will be lost, standards will be undermined and complexity will be added back into the global environment.

114. The classification authority for ICT jobs needs to be controlled centrally by the Office of Human Resources Management in collaboration with the Office of Information and Communications Technology to prevent individual departments from establishing separate ICT job classification systems.

115. Staff training and mentoring programmes need to be developed in collaboration with the Office of Human Resources Management to facilitate effective staff redeployments and migration to the new global staffing model.

Table 7
Summary of potential annual quantitative benefits, by project
(Millions of United States dollars)

Project	*Low-range estimate*	*High-range estimate*
Globalize service desks	34.9	47.2
Streamline data centres	36.4	54.6
Rationalize ICT organization[a]	—	—
Strengthen the Office of Information and Communications Technology[a]	—	—
Total	**71.3**	**101.8**

[a] Quantitative benefits are difficult to estimate, although there are significant qualitative benefits that are described in the project sections.

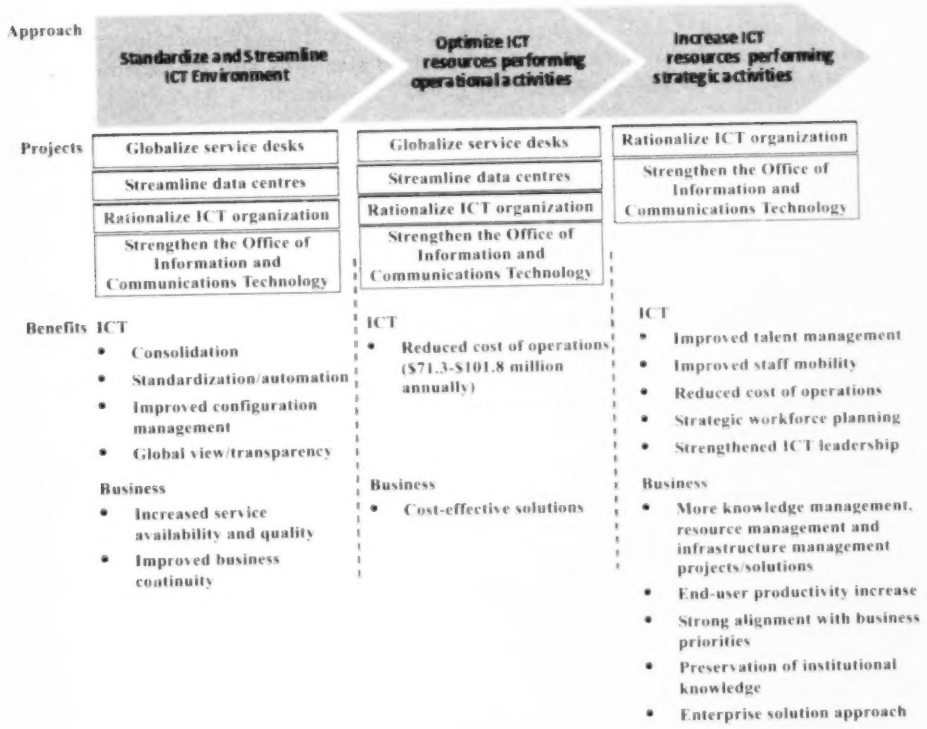
Summary of the structural review approach

116. The proposals arising from the ICT structural review represent an ongoing process that starts by modernizing, standardizing, streamlining and consolidating the

Secretariat's global ICT computing environments while simultaneously optimizing the outputs of its global workforce. All four of the proposed projects must work in concert to achieve this goal. There are immediate benefits during the implementation of the projects, such as increased service availability and quality, and improved business continuity.

117. Once the overall ICT environment has been standardized, excess resources and capacity will be identified, creating opportunities to reduce operational costs and reallocate staff to high-value work — building cost-effective solutions that increase staff productivity, preserve institutional knowledge and are better aligned with the strategic objectives of the Organization. Failure to invest in these projects will result in a downward spiral of increasing fragmentation, decreasing efficiency and shrinking capacity to implement new applications and services in a changing environment, while the overall ICT budget will continue to climb at a significant rate. The following chart summarizes the ICT structural review approach.

Figure IX
ICT structural review approach



118. The Office of Information and Communications Technology, with the active participation of all stakeholders, will provide overall management for the globalize service desks and streamline data centres projects. A project steering committee comprised of senior representatives from both substantive and ICT areas will be established to provide management oversight and decision-making on policy issues,

ensure institutional harmonization and smooth transition and foster collaboration between the Office of Information and Communications Technology and all parties involved.

Risk mitigation strategy

119. Risk mitigation is critical to the successful implementation of the ICT structural review projects. Each project implementation phase will begin with a planning and design exercise to gather business requirements, including identification of unique requirements, to ensure that existing capabilities are evaluated and thoroughly understood before plans and designs are finalized. This is followed by a pilot which is to be used to validate proof of concept prior to a broader roll-out. This multi-step approach allows the project team to review lessons learned after each phase and to incorporate them in future implementation stages and permits a formal and precise assessment of benefits. The knowledge gained from preceding phases will be used to mitigate risks as complexity increases in later phases. Cross-organizational governance boards and working committees will be established to provide proper executive oversight, project steering and feedback for all ICT structural review projects. To mitigate the risk of not achieving full benefits during transitional periods, it is assumed that proposed benefits will only be realized one full year after successful implementation of the projects.

E. Structural review projects

120. This section will outline the detailed findings, objectives, benefits and implementation plans of the four ICT Structural Review projects that require the General Assembly's approval.

1. Globalize service desks

Findings

121. The ICT structural review surveys revealed that there are currently 131 service desks across the Secretariat providing varying and inconsistent levels of ICT client support. The service desks and corresponding user workstations are serviced by 835 personnel from both ICT units and substantive areas. Most service desks operate within normal business hours, while 24/7 service is unavailable. Although some missions provide extended support hours, none of the service desks have standardized modern tools or streamlined processes to effectively meet business demand. Service desk workload indicators and personnel levels obtained through the 2010 ICT structural review survey show that inefficiencies exist. On average, most ICT service desk personnel handle approximately one quarter of the workload (service requests) of comparable organizations. Validation interviews and site visits demonstrated that in many cases processes are not streamlined and no automation tools are in place.

122. Across the Organization, many service desks and workstation support teams perform their tasks manually, in some cases augmented by local processes and tools that provide limited productivity capabilities. In addition, while there are a number of service-level agreements within the Secretariat, service performance is, for the most part, neither tracked or reported, further clouding accurate gauging of user satisfaction.

123. Additional analysis highlighted other key gaps in ICT service performance caused by fragmented service desks, such as:

(a) **Inconsistent processes**. Service desk processes are not connected or integrated, resulting in duplicative support efforts. In addition, processes may often involve time-consuming and error-prone manual tasks. The outcome is low efficiency, high support costs, and inconsistent quality of support;

(b) **Duplication of efforts**. Department-specific service desks may, in certain cases, be perceived to provide more personalized service. Since these service desks operate independently of their peers in other locations and lack a centralized incident tracking mechanism, their efforts are continuously replicated, whereas their service processes could be developed once and shared through an institutional knowledge base;

(c) **Disparate technologies to utilize, purchase and maintain service desk tools**. Some service desks currently utilize a small number of technologies while in many cases no service desk technologies are employed at all. This has resulted in an inability to report on and track the performance metrics needed for efficient service desk operation. In addition, it has resulted in multiple software licenses and numerous support contracts from various vendors, which is costlier than necessary and hinders the Organization's ability to negotiate volume discounts and organized reuse of purchased licenses;

(d) **Lack of integration**. In its current environment, it would be next to impossible and extremely costly to integrate the existing multiple service desk technologies across the Secretariat. As a result, each service desk has only a partial view of the ICT environment, which limits the understanding of service desk staff of the technical and business-related ramifications of ICT incidents. Thus, incidents cannot be prioritized based on their business impact nor result in proper workarounds, nor can service desk personnel leverage common problem resolutions from a shared source. The inability to track information across service desks inhibits the Organization's ability to accurately monitor and proactively manage overall service desk operations, as well as track their costs.

Project objectives

124. The project aims at extending the reach of consistent, effective and standardized ICT service desk and workstation support to end-users across departments, offices and missions whether in the same city, the same country or across the world. Implementation of the project is integral to meeting the Organization's goals. In cases where a broader service desk concept exists (such as New York City's 311 system), this project will enhance the ICT portion, ensuring a smooth, transparent resolution of ICT service requests.

125. The enterprise service desk technologies and tools that are currently available in the market come with process improvements that have stood the test of time and practice and have demonstrated significant improvements in the operation of many organizations worldwide. A standardized workstation environment enables service desk staff to remotely administer problems encountered by the end-user, and not only improves the speed of response and resolution, but also reduces staffing needs for workstation support. The proposal to globalize service desks presented herein

includes standardization of the workstation computing environment in order to meet these goals.

126. In summary, the implementation of globalized service desks will result in a reduction of duplicative efforts through a continuous improvement process, allowing for ongoing modernization, beginning with the creation of a single point of contact for all service requests. This may necessitate discussions with departments, offices and field missions where no clear, standard support provider exists. One example is the United Nations information centres within the Department of Public Information which have hybrid support models with multiple ICT service providers due to funding limitations. The project to globalize service desks will work with the Department of Public Information (and other departments in similar situations) to identify gaps in configuration standards and performance and assist organizational units in establishing policies, procedures and funding models to effectively meet their needs.

127. The objectives of globalizing service desks are as follows:

(a) To have a virtualized globalized service desk interface (i.e. single point of contact) with a "follow-the-sun" strategy, providing round-the-clock multilingual service to staff across the Secretariat;

(b) To reduce the existing 131 service desks, while maintaining virtually connected local presence of service desk personnel where required to meet the needs of the Organization. Existing facilities (global and regional service centres) could be leveraged to create synergies and economies of scale;

(c) To achieve and maintain high levels of standardization, automation and performance for service management;

(d) To employ self-service technologies to reduce person-based handled requests;

(e) To leverage existing physical facilities, existing tools such as iNeed, existing initiatives such as Umoja and the capital master plan and existing strategies such as the global field support strategy, where feasible and rational;

(f) To take advantage of performance-based outsourcing opportunities, that are in accordance with General Assembly resolutions 55/232 and 59/289.

128. The project to globalize service desks will be guided by the following principles:

(a) The project will be implemented in a measured, phased approach, starting with pilots which will be reviewed for lessons learned to improve future phases of the implementation;

(b) Success will be measured through the eyes of end-users based on quantifiable, methodologically sound satisfaction surveys;

(c) Tools and processes will be standardized to the extent possible;

(d) Resources that are made available by the service desk and workstation improvements will be repurposed to work on the project or towards higher value activities;

(e) If the implementation of the project cannot accommodate a department's unique needs, enhancements will be designed from a scalable perspective in order to maintain a local presence;

(f) Service desk standards will be defined by methodologies based on the Information Technology Infrastructure Library;[5]

(g) Service level agreements will be offered in a multi-tiered format driven by departmental needs;

(h) Limitations on physical centralization, such as those resulting from infrastructure connectivity constraints, will be taken into consideration;

(i) Communication, teamwork and cooperation by all departments and offices throughout the Secretariat is required, due to the size and complexity of the project; a change management and communications function will be required to facilitate user readiness and minimize disruptions to the Organization during this change.

Benefits

129. Consolidating, modernizing and standardizing the existing service desk environment will shift the Organization towards an approach that institutionalizes industry-standard best practices and appropriate technology that will provide numerous Organization-wide benefits, including improved service levels and quality, enterprise-wide standards, disciplined consistency, preservation of institutional knowledge and long-term financial savings.

Qualitative benefits

130. Globalized service desk operations will provide the following qualitative benefits to the Organization.

131. Improved effectiveness:

(a) **Agility**. By using industry-standard best practice processes and technologies, globalized service desks will enable a transition away from a reactive role to a proactive role in end-user solution delivery, showing a higher level of integration with other information technology areas;

(b) **Accessibility**. Round-the-clock service and multi-language support will greatly decrease the turnaround time for the resolution of problems, while providing world class ICT service expected in global operations;

(c) **Improved ICT processes and operations**. An integrated suite of reliable, modern help desk and workstation technologies will enable consistent end-user service. The resulting increased capacity can be repurposed to offer improved ICT service delivery throughout the Secretariat;

(d) **Responsiveness**. First-call resolution, self-service, ticket tracking and knowledge-base tools dramatically increase service desk responsiveness. Improved

[5] Information Technology Infrastructure Library provides a consistent and comprehensive documentation of best practices for identification, planning, delivery and support of IT services to the business used by thousands of organizations around the world.

processes will streamline the user experience, enabling service desks to resolve problems more quickly and improve the user experience;

(e) **Increased productivity**. When considering the reliance of staff on their personal computers, any downtime results in lost productivity. Well-managed globalized service desks will enable increased service desk quality and responsiveness that will be monitored and measured against service-level agreements clearly defining when, what and how services will be delivered. Improved productivity will also result from extended hours of service and a single point of contact available to end-users, leading to a decrease in the amount of time spent following up on outstanding requests.

Quantitative benefits

132. Currently the Organization spends approximately $135 million on service desk operations on an annual basis, consisting of labour costs of $95.4 million and equipment costs of $39.6 million. The service desk and workstation environments are supported by 835 full-time equivalent personnel (618 staff and 217 contractors) at 131 service desks globally. After full implementation, the overall savings are estimated at between $34.9 to $47.2 million on an annually recurring basis. These savings are the result of increased efficiency that will produce reductions in the following categories: staff (54 per cent), contractual labour (27 per cent) and equipment (19 per cent).

133. Improved efficiency:

(a) **Staff labour**. The introduction of self-service tools, automation and standardization of service desk technologies will decrease service desk volume significantly, and lead to a reduction of 269 to 363 full-time equivalent personnel required to operate service desks, producing savings in the range of $18.7 to $25.3 million. This excess staff capacity can be repurposed towards higher-value ICT functions or substantive activities;

(b) **Contractual labour**. Similarly, the globalized service desks will produce a reduction of 94 to 128 full-time equivalent personnel. These resources will be released and redeployed to other ICT activities as service desks are consolidated and automated and the workstation environment is standardized. As a result, estimated annual savings will amount to $6.6 to $8.9 million;

(c) **Equipment**. The introduction of self-service, workstation and service desk standards and tools; as well as the physical consolidations of service desks, will enable costs to be reduced by approximately $9.6 to $13 million.

Table 8
Estimated annual recurring benefits by category for globalized service desks
(In millions of United States dollars)

Benefits category	*Low-range estimate*	*High-range estimate*
Staff labour	18.7	25.3
Contractual labour	6.6	8.9
Equipment	9.6	13.0
Total	**34.9**	**47.2**

Implementation plan

Approach

134. The globalized service desk project team will plan and execute the project under the direction of the Chief Information Technology Officer and the established steering committee. The project team will include experts from various ICT units at Headquarters, offices away from Headquarters, the regional commissions, the Department of Field Support and field missions. The project team will be coordinated and led by a project manager, who will be accountable for the execution of the project.

135. The implementation will begin with a planning and design phase that includes a thorough gap analysis, assessment and inventory of the current service desk environment throughout the Secretariat, beyond the level of detail collected in the ICT structural review

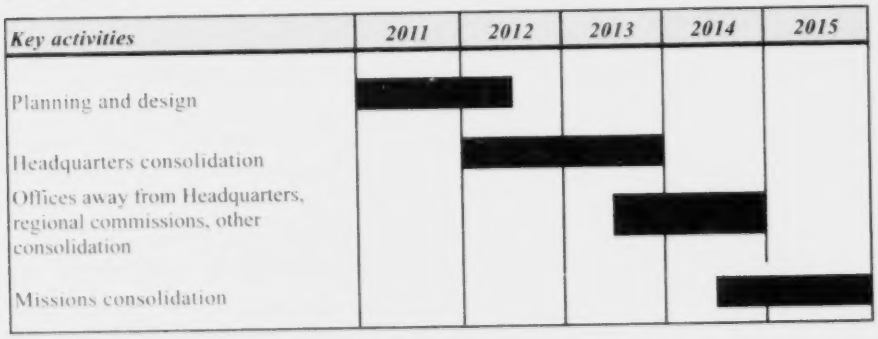
136. Prior to consolidating service desks throughout the Secretariat, an investment in proper tools and the development of proven industry-standard service models, best practice processes and functions is required to create the standardized operating environment necessary for the realization of the actual physical consolidation efforts.

137. Following standardization and toolset implementation, physical consolidation will take place in multiple phases. Each implementation phase will begin with a pilot to validate proof of concept. This plan-pilot-implement approach allows the project team to review lessons learned after each phase for future implementation stages and also permits a more precise assessment of benefits. The knowledge gained from preceding phases will be used to mitigate risks in more complex environments, and it is considered a best practice when business operations risk is paramount over cost considerations.

Schedule and resource requirements

138. The figure below outlines the high-level project schedule to globalize service desks.

Figure X
Globalize service desks project schedule



139. The overall estimated cost for implementing the project is in the amount of $58,044,700, with first year start-up costs estimated at $1,614,900, as indicated in

table 9. Only resources for the biennium 2010-2011 are being requested at this time; additional requirements will be submitted in the future budget submissions to support the next phases of implementation. The key cost-drivers in 2011 will be the formulation of a global ICT sourcing management strategy and capability, coupled with an ICT performance management function that will enable the Office of Information and Communications Technology to evaluate the success and relative performance of the project. A critical aspect of these functions will be to implement an automated method of generating ICT asset information related to workstations and other end-user equipment such as personal digital assistants and printers, and to place it at the disposal of ICT support and strategy personnel. The creation of pilots within Headquarters to provide a proof of concept that can be evaluated and refined before wide implementation at Headquarters will also be critical. A similar approach will be followed for other duty stations and missions in later phases of the project, as described above. At present, neither the Office of Information and Communications Technology nor any other Secretariat entity possesses these functions or skill sets owing to the decentralized, fragmented ICT approach mentioned above. These skills must be created in order to provide for the successful implementation of the project to globalize service desks. Listed below are the various phases and how they build upon previous phases to ensure success. This approach is based on ICT best practices observed by many other successful, public sector implementations.

140. **Phase 1: Planning and design**. During this phase a thorough evaluation will be performed, resulting in global requirements for enterprise service desk ticketing, self-service, configuration management and knowledge-based tools, as well as standardized enterprise workstation requirements. The main cost component of this phase consists of the labour required to evaluate, select and pilot the necessary tools (total cost for phase 1: $7.2 million).

141. **Phase 2: Headquarters consolidation**. This phase begins with a pilot at Headquarters. Service desk ticketing, self-service, asset management and knowledge-based tools will be installed and a standard workstation image will be rolled out. Lessons learned exercises will be conducted and adjustments made to the implementation plan based on the pilot, followed by full deployment at Headquarters. The main cost components of this phase consist of the labour costs associated with installation and rollout of the tools, as well as the funding needed to purchase the underlying software and hardware (total cost for phase 2: $14 million).

142. **Phase 3: Offices away from Headquarters, regional commissions, other consolidation**. This phase begins with a pilot in offices away from Headquarters, the regional commissions and other units, following the same model as above. Cost components for this phase are the same as in the Headquarters phase above (total cost for phase 3: $18.1 million).

143. **Phase 4: Missions consolidation**. This phase begins with a pilot in select missions, following the same steps as above. Owing to unique mission requirements, the service desk approach will be tailored to ensure that critical field needs are met (total cost for phase 4: $18.7 million).

Table 9
Total resource requirements for implementation of the project to globalize service desks

(Thousands of United States dollars)

Object of expenditure	*2010-2011*	*2012-2013*	*2014-2015*	*Total*
Globalize service desks				
Other staff costs	383.2	1 437.0	3 257.2	**5 077.4**
Consultants and experts	787.1	2 854.9	3 117.5	**6 759.5**
Travel of staff	—	500.0	2 250.0	**2 750.0**
Contractual services	68.7	2 950.8	6 300.0	**9 319.5**
General operating expenses	280.1	804.5	1 155.5	**2 240.1**
Supplies and materials	4.5	4 766.3	13 171.6	**17 942.4**
Furniture and equipment	91.3	6 341.5	7 523.0	**13 955.8**
Total	**1 614.9**	**19 655.0**	**36 774.8**	**58 044.7**

Resource requirements for the biennium 2010-2011

Other staff costs

144. An amount of $383,200 is proposed for general temporary assistance to provide for two P-4s to lead efforts related to ICT commercial sourcing, configuration and performance management for nine months in 2011. The ICT commercial sourcing tasks to be performed by these P-4s are: leading a global effort to create a request for information and request for proposal to identify either internal or external resources to provide world-class service desk and workstation support; and coordinating pilots with various Secretariat entities and managing the implementation of the project to globalize service desks. The ICT performance and configuration management tasks to be performed include establishing an integrated ICT asset management framework with key configuration details to enable the selected vendor to manage the environment effectively. This requires global coordination of various ICT organizations to introduce and manage the implementation of these functions; both P-4 positions will rely heavily on consultants and experts to carry out the necessary analysis.

Consultants and experts

145. An amount of $787,100 is requested for consultants and experts to assist the P-4s and to evaluate toolsets and plan implementation. The experts will evaluate the global scope of the Secretariat's existing ICT service desk and workstation environment, identify gaps and develop and evaluate tools and vendors that can successfully implement the strategy created by the P-4s. They will be experts in the toolsets and the integration of management processes required for the project to globalize service desks, and will need to possess very detailed, real-world operational knowledge and experience for the evaluation, planning and introduction of the project into the Secretariat environment. This knowledge is not currently available within existing ICT personnel and will need to be undertaken in parallel with the tasks performed by the P-4s.

Contractual services

146. An amount of $68,700 is requested to cover the cost of contractual services related to training activities in 2011. Training in the systems being evaluated will be needed for key stakeholder personnel on the project team to adequately blend institutional knowledge with toolset and process capabilities. This will assist the consultants and experts in identifying enterprise class capabilities while understanding the characteristics and limitations of the Secretariat ICT environment. This amount would also cover charges for local area network and communications and information technology service-level agreements.

General operating expenses

147. An amount of $280,100 is requested for common support costs covering rental charges, minor alterations of office space and telephone and facsimile services related to the new positions requested under this project.

Supplies and materials

148. An amount of $4,500 is requested to cover the costs of office supplies related to the new positions requested under this project.

Furniture and equipment

149. An amount of $91,300 is requested to cover the costs of providing furniture and office automation equipment for the new positions requested under this project.

Biennium 2012-2013 and beyond

150. A cost forecast for the project has been estimated as accurately as possible; however, it will be updated in subsequent progress reports and requirements will be included in the relevant proposed programme budget outlines as further levels of detail become available.

2. Streamline data centres

Findings

151. The ICT structural review surveys indicated that there are currently 34 data centres and 177 server rooms in the Secretariat, amounting to 211 separate computing facilities. This situation calls for immediate management action to contain the growth of computing facilities and achieve a controlled and rational number of data centres worldwide. The existing server and storage environment of the Organization poses a number of risks and challenges as follows:

(a) **Explosive growth of the server environment**. The 4,557 servers reported in the 2010 survey show a 23 per cent growth in less than 2 years compared with the number of servers reported in the 2008 survey, driven by the Organization's increased growth and demand. Alarmingly, the number of servers has grown despite virtualization efforts, pursuant to which 950 servers were decommissioned during the same period. Taking this into account, the number of servers has grown by almost 50 per cent since 2008. If unchecked, the number of servers will continue to multiply beyond the Organization's ability to effectively and economically manage them. In simple terms, more servers require more hardware, software and personnel

to support them. While the project does not consolidate applications, even greater benefits will be achieved when improved application portfolio management discipline is applied;

(b) **Continued increase in storage demands**. As the need to access information has become a more crucial activity for the Organization, the demand for digital storage has continued to increase at double digit rates, with this trend showing no sign of slowing down. The 2010 survey results indicated that the Organization's combined storage capacity is approximately 2.4 petabytes of information, which would equal approximately 50 million four-drawer filing cabinets filled with text. Massive data growth over the years has led departments to build their own infrastructure and add additional storage subsystems. This has resulted in excessive, uncoordinated and non-standardized storage systems that are difficult to manage, are costly to support and do not keep pace with continuous increases in application storage requirements and developments;

(c) **Excess support requirements**. The 2010 survey indicated that there are approximately 552 personnel managing server and storage environments throughout the Secretariat. This number is necessitated by the lack of enterprise server and storage monitoring and management tools, compounded by the upkeep of separate server and storage environments, which is operationally and fiscally inefficient;

(d) **Inconsistent processes**. Server and storage monitoring tools and management processes are inconsistent across data centres and server rooms. For the tools that do exist, lack of integration has resulted in siloed and inconsistent approaches to managing the infrastructure environment and duplicative support efforts. In addition, current processes involve time-consuming and error-prone manual tasks. Inefficient application of computing power, low server utilization, and higher than necessary support costs and restoration time frames are prevalent across the Secretariat;

(e) **Disparate technologies to utilize, purchase and maintain**. With a few exceptions in certain departments and in some cases within missions, the standards and tools that exist in the market have not been integrated into the Organization. This has caused an inability to monitor and report performance metrics needed to gauge server and storage problems. This has resulted in ineffective problem identification, diagnosis, resolution and escalation procedures, causing unnecessary downtime. Additionally, numerous support contracts from multiple vendors exist, which is costlier than necessary and hinders the Organization's ability to use scale to negotiate discounts. The incompatibility between the technologies and the expense involved in managing multiple platforms makes it difficult, if not impossible, to efficiently manage infrastructure capacity;

(f) **Staff retention and mobility issues**. There are no Secretariat-wide policies or standards for managing servers and storage for the 211 data centres and server rooms, which means personnel from elsewhere in the Secretariat cannot be used to assist when needs fluctuate because of the uniqueness of each environment. For the same reason, it is difficult to migrate from one department to the next. Ease of mobility and repetition of practice create an organizational benefit by leveraging many experiences in a similar computing environment, which is difficult to achieve in the current environment;

(g) **Lack of enterprise approach**. A number of departments manage separate pieces of organizational infrastructure resulting in duplication of effort and resources. A standardized enterprise architecture will reduce the cost of operations and service delivery and ensure that the infrastructure meets the demands of the Organization at all times;

(h) **Data security is at risk**. Protecting data is difficult when it is managed under different policies and procedures. A greater amount of servers creates a bigger environment that must be monitored for security and business continuity considerations. A more complex environment is also more complicated to replicate and restore in case of a disaster, thus resulting in greater risk for the Secretariat;

(i) **The impact of power and cooling**. As the Organization is becoming more conscious of its carbon consumption, it must consider that its data centres contribute to the environmental burden. Consolidating the amount of data centres, server rooms and servers will reduce overall energy consumption, the carbon footprint of the Organization and cost of operation. A report by a management consulting firm advising leading companies on issues of strategy, organization, technology and operations suggests that energy efficiency of data centres can be doubled through more disciplined management, reducing both costs and greenhouse-gas emissions.[6] In particular, technology assets need to be managed more aggressively so existing servers can work at much higher utilization levels, and improvements are needed to improve forecasting of the business demand driving application, server and data centre facility capacity so that unnecessary capital and operating spending can be curbed.

Project objectives

152. Previous references have been made in the present report to the fragmentation that has resulted from the accelerated growth in some areas of the Organization. A similar effect exists as it relates to data centre management.

153. Without efficient use of server resources, in the longer term the resource costs associated with infrastructure will continue to grow at an alarming rate, eventually outstripping any reasonable attempt to support them.

154. Closely related to current efforts with the Department of Field Support, and in the context of the capital master plan, disaster recovery and business continuity, the project to streamline data centres seeks to create an enterprise approach to management of servers, storage and related facilities and to continue efforts to consolidate applications that are already under way in parts of the Organization, such as in the Department of Field Support and through the Umoja project. The following paragraphs describe the necessary adjustments to the Secretariat's data centre environment to make planning, implementation and operations much more efficient and effective, by building a more secure, agile and cost-effective infrastructure operation to meet the evolving needs of the Organization.

[6] William Forrest, James Kaplan and Noah Kindler, "Data centers: how to cut carbon emissions and costs" (McKinsey and Company, 2008). Available from www.mckinsey.com.

155. The objectives of streamlining data centres are:

(a) To consolidate data centres, server rooms and servers to a minimum number of enterprise and duty station data centres, to the maximum extent possible within operational and business limitations of the Secretariat;

(b) To establish remote monitoring where local server rooms are inevitable;

(c) To implement enterprise-wide standardization and automation for server and storage management;

(d) To strengthen data protection;

(e) To provide round-the-clock access to mission-critical applications and data;

(f) To reduce the overall cost of facilities required to support ICT infrastructure for the Secretariat;

(g) To take advantage of performance-based outsourcing opportunities that are in accordance with General Assembly resolutions 55/232 and 59/289 on outsourcing.

156. The project to streamline data centres will be guided by the following principles:

(a) All services will remain at current service levels or improve;

(b) All data centre changes will be transparent to business end-users and will not affect operations without prior discussions to lessen downtime (business operational impact);

(c) Decisions relevant to composition, placement and management of the servers and storage will be made based on the overall benefit to the Organization;

(d) Limitations on physical centralization, such as those resulting from infrastructure connectivity constraints, will be taken into consideration;

(e) Existing infrastructure will be consolidated and leveraged to the fullest extent possible before migration occurs to realize benefits, reducing the costs of additional hardware, software and facilities;

(f) Individual departments should not be permitted to opt out of the effort to streamline data centres, therefore appropriate authority needs to be applied for consistency purposes;

(g) Enterprise management of servers is no longer deemed merely desirable, but is considered a business imperative.

Benefits

157. Streamlining of data centres will enable secure and reliable access to data throughout the Secretariat, improving business productivity and agility while reducing costs and generating higher levels of ICT performance.

158. Once implemented, organizational infrastructure spending will be reduced. Enterprise server and storage technologies available in the ICT marketplace will be utilized as a best practice application of process improvements, as is widely employed by most ICT organizations.

Qualitative benefits

159. Improved effectiveness will include:

(a) Simplified, global server and storage management: modernizing the Organization's infrastructure will provide cost-effective data centre services to all departments and enable the use of more efficient computing platforms and technologies;

(b) Increased service delivery: by reducing resources needed for routine activities associated with data centre operations and redirecting them to higher-value ICT functions, more solutions that meet the needs of the Organization can be provided;

(c) Correcting operational deficiencies and mitigating risk: enhancing disaster recovery capabilities and supporting the Organization's business continuity (see sect. II), security and facilities to a uniform standard across the Organization will mitigate risk and properly align infrastructure for future initiatives and needs;

(d) Promoting the use of sustainable ICT by reducing the overall carbon footprint: fewer physical servers result in less power being used, through reduced overall energy consumption and cooling requirements.

Quantitative benefits

160. Currently the Organization spends approximately $104 million on data centre operations on an annual basis consisting of staff labour costs of $54.2 million and equipment costs of $49.6 million, and is supported by approximately 552 full-time equivalent personnel in 211 data centres and server rooms across the Secretariat (408 full-time equivalent staff and 144 full-time equivalent contractors). After full implementation, the overall savings are estimated to be between $36.4 million and $54.6 million on an annual recurring basis. These savings are the result of increased efficiency, which will produce reductions in the following categories: staff (39 per cent), contractual labour (14 per cent) and equipment (47 per cent).

161. Improved efficiency will include:

(a) **Staff**. The introduction of automation and standardization of server and storage technologies will lead to a reduction of between 117 and 175 full-time equivalent personnel required to operate data centres for potential savings of $14.3 million to $21.4 million. This excess staff capacity can be redirected to higher-value ICT functions or substantive activities;

(b) **Contractual labour**. Efficiency gains in contractual labour will provide a reduction of between 46 and 70 full-time equivalent personnel. These individuals will be released as server and storage management is standardized and local server rooms are consolidated. As a result, estimated annual savings will amount to $5 million to $7.5 million;

(c) **Equipment**. As a result of the introduction of server and storage monitoring and management tools, as well as the physical consolidation of data centres and server rooms, equipment costs will be reduced by approximately $17.1 million to $25.7 million.

Table 10
Estimated annual recurring benefits by category of streamline data centres project
(Millions of United States dollars)

Benefit category	*Low-range estimate*	*High-range estimate*
Staff	14.3	21.4
Contractual labour	5.0	7.5
Equipment	17.1	25.7
Total	**36.4**	**54.6**

Implementation plan
Approach

162. The streamline data centres project team will plan and execute the project under the direction of the Chief Information Technology Officer and the established steering committee. The project team will include experts from various ICT units at Headquarters, offices away from Headquarters, regional commissions, the Department of Field Support and field missions. The project team will be coordinated and led by a project manager, who will be ultimately accountable for the execution of the project.

163. The implementation will begin with a preparatory stage, when an in-depth study across the Secretariat is planned to obtain a more precise inventory of both assets and facilities as they relate to server and storage management functions. Existing systems will be identified and classified to determine alternatives for rationalization and consolidation.

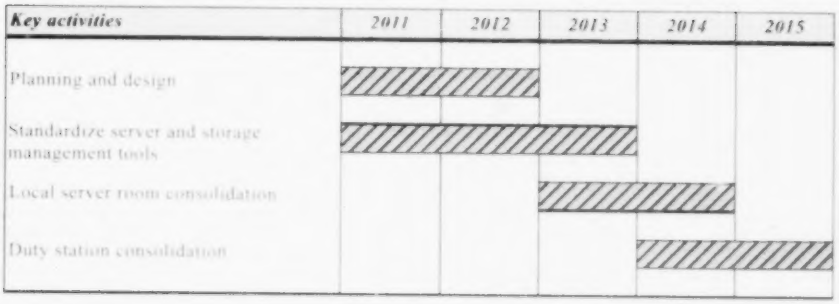
164. Prior to consolidating infrastructure throughout the Secretariat, an investment in the proper tools and the development of proven industry-standard best practice processes and functions are required to create the standardized operating environment required for the actual physical consolidation efforts to occur.

165. Following standardization and implementation of the toolset, rationalization of the local, duty station and enterprise data centre environments will take place in multiple phases. Each implementation phase will begin with pilots to validate the concept. This approach from plan to pilot to implementation allows the project team to review lessons learned at each phase and permits a more precise assessment of future benefits. The knowledge gained at each phase will be used to mitigate risks in the more complex environments.

Schedule and resource requirements

166. Figure XI below outlines the project schedule to streamline data centres.

Figure XI
Streamline data centres project schedule



167. The overall estimated cost for implementing this project amounts to $56,130,800, with the first year start-up cost estimated at $1,906,200, as indicated in table 11 below. Only the resource requirements for the biennium 2010-2011 are being requested at this time; additional requirements will be submitted in future budget submissions. Similar to the project to globalize service desks, the key elements in 2011 will be the formulation of a global management strategy for ICT sourcing in conjunction with the Procurement Division and introduction of ICT performance-management functions that will enable the Office of Information and Communications Technology to evaluate the success and relative performance of the project. A critical aspect of these functions will be to put in place an automated method of generating information on ICT assets related to servers and storage and making it available to ICT support and strategy personnel. Combined with that effort will be analysis related to tools for managing enterprise strength, which will provide internal and external support personnel with key operational data that can be used to operate more effectively the Secretariat ICT server and storage environment globally. Also critical will be the creation of pilots within United Nations Headquarters, other duty stations and missions to provide a proof of concept that can be evaluated and refined before wide implementation in the Secretariat. Currently neither the Office of Information and Communications Technology nor any other Secretariat entity possesses these functions or skill sets because of the decentralized, fragmented ICT approach mentioned above; they must therefore be created to provide for successful implementation of the project to streamline data centres. Described below are the various phases and how they build upon previous phases to ensure success. This is based on ICT best practices observed in many other successful projects in the public sector.

168. **Planning and design phase**. During this phase, server and storage resource management toolsets, which include both monitoring and management tools, will be evaluated by cross-functional teams to select the best toolsets that meet the unique needs of the Secretariat. Simultaneously, consolidation approaches, consistent with the strategies of the Office of Information and Communications Technology and the Department of Field Support and disaster recovery plan and business continuity strategies will be planned. The main cost incurred during this phase is related to the labour needed to analyse the requirements (total cost for phase 1: $1.9 million).

169. **Standardize server and storage management tools**. During this phase, pilots will be selectively conducted at United Nations Headquarters, offices away from Headquarters and missions to implement a suite of server and storage resource

management tools. These pilots will be crucial to effectively consolidate infrastructure into enterprise and duty station data centres. The cost incurred during this phase relates to software, hardware and labour associated with the pilots (total cost for phase 2: $3.8 million).

170. **Local server room consolidation**. During this phase, local servers and storage rooms will be consolidated into fewer physical locations (duty station data centres). This is consistent with the strategies of the Office of Information and Communications Technology and the Department of Field Support and disaster recovery plan and business continuity strategies. The consolidation activities will extend through the remainder of the project, with easier migrations occurring first followed by more complex configurations. The cost incurred during this phase consists of labour required to perform physical consolidation activities (total cost for phase 3: $8.6 million).

171. **Application consolidation**. As local server rooms are being consolidated, application consolidation will be coordinated with Umoja and other teams. The purpose will be to migrate as many enterprise applications as possible to the enterprise data centre, while consolidating local applications to duty station data centres. Local server rooms will be remotely monitored and managed to the greatest extent possible. The cost incurred during this phase consists of labour required to perform decommissioning of the legacy infrastructure (total cost for phase 4: $17.7 million).

172. **Duty station data centre consolidation**. This phase will complete the end-state architecture by consolidating infrastructure workload into enterprise data centres and scaling back the operations of duty station data centres, consistent with the disaster recovery plan and business continuity strategy. The cost incurred during this phase relates to labour required to perform the physical consolidation activities (total cost for phase 5: $24.1 million).

Table 11
Total resource requirements for implementation of the project to streamline data centres

(Thousands of United States dollars)

Object of expenditure	*2010-2011*	*2012-2013*	*2014-2015*	*Total*
Streamline data centres				
Other staff costs	383.2	1 437.0	3 257.2	**5 077.4**
Consultants and experts	966.4	2 093.0	2 412.1	**5 471.5**
Travel of staff	—	700.0	2 500.0	**3 200.0**
Contractual services	139.0	2 513.8	8 806.6	**11 459.4**
General operating expenses	310.8	650.2	1 061.3	**2 022.3**
Supplies and materials	5.0	3 842.1	12 827.3	**16 674.4**
Furniture and equipment	101.8	1 155.2	10 968.8	**12 225.8**
Total	**1 906.2**	**12 391.3**	**41 833.3**	**56 130.8**

Resource requirements for the biennium 2010-2011

Other staff costs

173. An amount of $383,200 is proposed for general temporary assistance to provide for two P-4s to lead efforts related to vendor, configuration and performance management for nine months in 2011. The ICT commercial resource management tasks that need to be performed are: leading a global effort to create a request for information and a request for proposals to identify either internal or external resources to provide world-class server and storage support; coordinating pilots with various Secretariat entities; and managing the implementation of the project to streamline data centres. The ICT performance and configuration management tasks that need to be performed include establishing an integrated ICT asset management framework with key configuration details to enable the selected commercial resources to manage the environment in an effective manner. This requires global coordination of various ICT organizations to introduce this function. Both positions will rely heavily on consultants and experts to evaluate the wide variety of toolsets and processes necessary to manage a global implementation of these functions. It should be noted that these functions, while complementary, do not duplicate the resources required for the project to globalize service desks or to strengthen the Office of Information and Communications Technology.

Consultants and experts

174. An amount of $966,400 is proposed for consultants and experts to assist the P-4s and to evaluate toolsets and plan implementation. The experts will evaluate the global scope of the Secretariat's server, storage and data centre operations and evaluate tools and commercial resources that can successfully implement the strategy created by the P-4s. They will be experts in server and storage management tools and integration and in systems management processes required for the project to streamline data centres. The experts will need to possess very detailed, real-world, operational knowledge and experience for the evaluation, planning and introduction of the project into the Secretariat server and storage environment. This knowledge is not currently available within existing ICT resources and will need to be undertaken in parallel to the tasks performed by the P-4s.

Contractual services

175. An amount of $139,000 is requested to cover the cost of contractual services related to training activities in 2011. Training in the systems being evaluated will be needed for key stakeholder personnel on the project team to adequately blend institutional knowledge with toolset and process capabilities. This will aid the consultants and experts in identifying enterprise class capabilities while understanding the characteristics and limitations of the Secretariat ICT environment. This training will need to extend to a wide subset of ICT subject-matter experts globally to effectively prepare the data centre environments for migration and implementation activities occurring in the next phase of the project. This amount would also cover charges for local area network and communications and information technology service level agreements.

General operating expenses

176. An amount of $310,800 is requested for common support costs covering rental charges, minor alterations of office space and telephone and facsimile services related to the new positions requested under this project.

Supplies and materials

177. An amount of $5,000 is requested to cover the costs of office supplies related to the new positions requested under this project.

Furniture and equipment

178. An amount of $101,800 is requested to cover the costs of providing furniture and office automation equipment for the new positions requested under this project.

Biennium 2012-2013 and beyond

179. A cost forecast for the project has been estimated as accurately as possible; however, it will be updated in subsequent progress reports and requirements will be included in the relevant proposed programme budget outlines as further levels of detail become available.

3. Rationalize the ICT organization

Findings

180. As at March 2010, the Organization employed 4,219 dedicated, full-time ICT personnel. Survey responses confirmed the existence of many disparate, unofficial ICT job titles and descriptions for recruiting, performance and accountability management. ICT organizational structures vary significantly across the Secretariat and job titles and descriptions fall within a very narrow range of modern ICT activities and roles. Furthermore, what constitutes an ICT activity or role has not been clearly and consistently defined. The following represent findings concerning the current ICT organization:

(a) **The scope and role of ICT has changed**. In the past, ICT has traditionally been the organization that runs the infrastructure and applications in support of core operational processes. In recent years, ICT has spread into almost all organizational business processes and services, spawning the emergence of new technical disciplines that do not have their origin in ICT but have become a critical component of successful ICT service delivery (for example, certain information management roles). There is no longer a clear delineation of what activities fall under the purview of ICT, and this must be developed in order for the Organization to optimize the distribution of ICT services, units and roles;

(b) **Inconsistent sourcing strategy**. A clear division of work between various ICT service providers and partner organizations has not been established, causing duplication of effort and lack of compliance with ICT standards. Without a definitive sourcing strategy, ICT staff are often allocated to routine operational activities (such as data centre operations), which can be done more economically by partner organizations or vendors, whereas the resources necessary to perform strategic functions (such as enterprise architecture) are not available because of insufficient funding. Conversely, when consultants and contractors perform certain

core ICT activities in place of United Nations staff, retention of institutional knowledge, and possibly security, is put at risk;

(c) **Current ICT career paths and jobs do not reflect functions for strategic and business relationship management needed for successful implementation of the ICT strategy**. Currently, the Organization offers two technical career paths: systems development and maintenance, and infrastructure and telecommunications, reflecting a traditional, but narrow view of the ICT organization's scope. Existing ICT career paths do not encompass the skills and competencies needed to support streamlining of business processes and other key functions required to consolidate business applications and related ICT infrastructure across the organization;

(d) **Disparity of ICT jobs across the Secretariat**. Analysis of survey and system-of-record data revealed the existence of 173 unofficial ICT job titles. The absence of standardized job descriptions for recruiting, performance management, accountability and career management has resulted in inconsistencies between similar ICT functions and responsibilities between departments. This has also limited institutional opportunities for staff to build on their existing technical skills and competencies to grow professionally and pursue opportunities within higher order or broader ICT career paths, roles and jobs;

(e) **Inconsistent ICT organizational model**. There are more than 70 ICT units across the Secretariat with varying organizational structures, reporting levels and arrangements within their departments. These inconsistencies limit the access of ICT chiefs to senior management levels and lower the participation level of ICT in the business-related decision-making process.

Project objectives

181. The objectives of this project are to:

(a) Define and establish the ICT job boundary by defining what activities are to be considered ICT activities governed by ICT standards, policies and job descriptions;

(b) Determine where those activities should be performed (e.g., business units, ICT organizations, partner organizations, vendors) taking into account the need to balance business unit responsiveness, ICT efficiency and organizational risk;

(c) Implement a global ICT staffing model to establish strategic roles such as enterprise architecture and business relationship management to stem and eventually reverse the effects of fragmentation;

(d) Work with the Office of Human Resources Management to implement a comprehensive global ICT career development path that facilitates mobility within and across the new ICT career streams;

(e) Implement organizational changes in the ICT management structure, including consolidation of multiple ICT units within the same department or office and elevation of reporting levels of ICT chiefs within their department or office, where appropriate.

182. Rationalization of the ICT organization will be guided by the following principles:

(a) Decisions will be made based on the overall benefit to the Secretariat, utilizing an enterprise-wide prioritization approach;

(b) Changes in ICT roles, responsibilities and staffing levels will be negotiated with affected departments on a unit-by-unit basis before presenting recommendations to the General Assembly for approval;

(c) Resulting staff redeployments will be on a voluntary basis and in accordance with human resources principles at the United Nations.

Benefits

183. A number of benefits are expected to accrue through rationalization of the ICT organization.

184. Improved effectiveness includes:

(a) **Transparency of ICT service costs**. A global ICT human resources database will provide insight into staff distribution and allocation and create a baseline that can be used to properly align the planning, budgeting, forecasting and reporting process of ICT services. An overview of ICT personnel across the Secretariat is the foundation for strategic allocation of resources to priority projects and efficient staff utilization;

(b) **Distribution of ICT workforce into roles that add most business value**. A proper ICT-specific workforce planning framework will rationalize the amount and types of staff needed to carry out ICT functions, enable forecasting of ICT staffing needs and ultimately ensure that staff competencies will be aligned with job requirements and business needs;

(c) **Preservation of institutional knowledge**. A clearly defined sourcing strategy ensures better preservation of institutional knowledge by minimizing turnover of contractors and consultants who are performing strategic ICT functions;

(d) **Improved staff morale**. Creating a framework that builds a high-performing ICT culture and outlines clear career growth opportunities enables improved performance management, accountability and career growth, which in turn drives staff engagement, results and productivity;

(e) **Improved accountability**. A clearly defined ICT boundary ensures that the Organization pursues and leverages technological opportunities and that appropriate governance and coordination is established in fringe areas;

(f) **Increased agility**. Heightened job satisfaction, improved morale and lower turnover as a result of the global staffing model will bolster the Organization's capability to leverage creative ideas of its retained staff in developing innovative, better and faster solutions for Secretariat departments and offices.

185. Increased efficiency will include:

(a) **Improved talent management**. A centrally controlled, standardized ICT staffing model and the associated ICT career path model will contain standardized ICT functional titles and job descriptions for state-of-the-art functions, enabling the Organization to pursue a coherent ICT strategy and consistency among ICT activities globally and to support staff in acquiring the required competencies and skills and necessary certifications to achieve their career goals. The implementation

of the ICT staffing model will increase the level of professionalism and ensure that appropriate certifications needed to perform ICT roles are obtained.

(b) **Improved staff mobility**. The standardization of ICT career paths will establish a consistent and standard method of evaluating similar tasks across different ICT units. This will facilitate increased mobility across the Organization by providing staff with new and challenging responsibilities and clear career growth opportunities in other substantive or ICT areas;

(c) **Reduced cost of operations**. A clearly defined sourcing strategy will enable the Organization to take advantage of economies of scale and to utilize its ICT resources more effectively, by transitioning career staff towards high-value ICT functions;

(d) **Cost avoidance**. Redistributing ICT resources across the Organization so that they are properly aligned with departmental needs will curb the existing redundant and fragmented activities and will ensure more fiscally responsible spending decisions in the future.

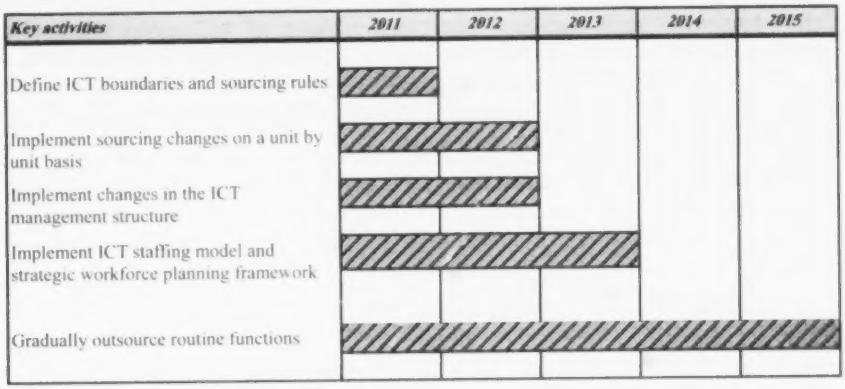
Implementation plan
Approach

186. The project will be carried out in five parallel streams, with the majority of activities taking place in 2011 and 2012, as shown in figure XII. After defining the ICT boundary, sourcing rules and ICT unit management structure, recommendations for implementation will be made on a unit-by-unit basis. Once a bilateral agreement has been reached with an organizational unit, the implementation timetable and budget adjustments will be determined. The process applied will result in an agreed distribution of roles and responsibilities in the ICT service delivery chain across the Secretariat and a unified organizational structure for all ICT units. In parallel, the new ICT global staffing model and ICT strategic workforce planning framework will be made operational in collaboration with the Office of Human Resources Management.

Schedule
Schedule and resource requirements

187. Figure XII outlines the high-level project schedule to rationalize the ICT organization.

Figure XII
Project schedule for rationalizing the ICT organization



Resource requirements

188. The overall estimated cost for implementing this project is in the amount of $4,620,500, with the first year start-up cost estimated at $1,490,500, as indicated in table 12. The five implementation streams for this project are as follows:

(a) **Define ICT boundaries and sourcing rules**. Activities include formal establishment of the ICT job boundary, the definition of roles and responsibilities of ICT service providers, and the proposal of principles for granting the Office of Information and Communications Technology the delegated authority to provide oversight and strategic planning of newly defined ICT functions within the Secretariat;

(b) **Implement sourcing changes on a unit-by-unit basis**. Recommendations will vary unit by unit depending on: (i) whether currently performed activities within a unit are considered to be ICT activities governed by ICT standards, policies and job descriptions; and (ii) where those activities should be performed based on agreed sourcing rules and taking into account the need to balance business unit responsiveness, ICT efficiency and organizational risk. Once agreements are reached with each business unit, a timetable for implementation will be developed and potential adjustments to the budget of the unit will be made in the context of the normal budget process;

(c) **Implement changes in the ICT management structure**. Additional levels of standardization, coordination and oversight will be implemented to fully realize the ICT vision, including structural changes to ICT units, their reporting position within departments and a clear division of labour among ICT service providers;

(d) **Implement an ICT global staffing model and strategic workforce planning framework**. Activities include the implementation of the ICT global staffing model, supported by standardized functional titles and job descriptions. Also included in this phase are the steps necessary to implement an ICT strategic workforce planning framework;

(e) **Gradually outsource commoditized roles**. Pursue outsourcing of routine functions in line with General Assembly resolutions 59/289 and 55/232 and gradually migrate staff towards higher value functions.

Table 12
Total resource requirements for implementation of the project to rationalize the ICT organization

(Thousands of United States dollars)

Object of expenditure	*2010-2011*	*2012-2013*	*2014-2015*	*Total*
Rationalize the ICT organization				
Other staff costs	1 100.0	1 300.0	—	**2 400.0**
Travel of staff	150.0	150.0	—	**300.0**
Contractual services	12.8	523.0	1 000.0	**1 535.8**
General operating expenses	179.3	157.0	—	**336.3**
Supplies and materials	2.5	—	—	**2.5**
Furniture and equipment	45.9	—	—	**45.9**
Total	**1 490.5**	**2 130.0**	**1 000.0**	**4 620.5**

Resource requirements for the biennium 2010-2011

Other staff costs

189. An amount of $1,100,000 is proposed for general temporary assistance to provide for two P-5, two P-4 and one P-3 positions for 12 months each for the activities and deliverables associated with implementing the ICT boundary, associated organizational changes, ICT global staffing model and strategic workforce planning framework. These resources will be responsible for the day-to-day management and reporting of project activities, the creation of stakeholder analyses and engagement plans to prepare for the changes staff will be facing, the performance of organizational risk and readiness assessments for the departments that will need to make changes, the conducting of high-level negotiations with departments on ICT boundaries and sourcing, drafting of job descriptions, and supporting the Office of Human Resources Management with the post reclassification effort.

Travel of staff

190. Travel in the amount of $150,000 is required for data-gathering sessions, meetings and briefings relating to the assessment, analysis and design of the project in the most heavily affected departments and offices away from Headquarters.

Contractual services

191. An amount of $12,800 is requested to cover charges for local area network and communications and information technology service level agreements.

General operating expenses

192. An amount of $179,300 is requested for common support costs covering rental charges, minor alterations of office space and telephone and facsimile services related to the new positions requested under this project.

Supplies and materials

193. An amount of $2,500 is requested to cover the costs of office supplies related to the new positions requested under this project.

Furniture and equipment

194. An amount of $45,900 is requested to cover the costs of providing furniture and office automation equipment for the new positions requested under this project.

Biennium 2012-2013 and beyond

195. A cost forecast for the project has been estimated as accurately as possible; however, it will be updated in subsequent progress reports and requirements will be included in the relevant proposed programme budget outlines, as further levels of detail become available.

4. Strengthen the Office of Information and Communications Technology

Findings

196. The Office of Information and Communications Technology was established in January 2009 within existing budgetary and staff levels through redeployment of existing resources within the approved staff posts and budgets of the Information Technology Services Division of the Department of Management and the Information and Communications Technology Division of the Department of Field Support. Since its establishment, the Office has made notable progress towards accomplishing its mandate to meet the strategic ICT needs of the Secretariat, in respect of which it has realigned its programme structure by creating two new subprogrammes under programme 24E: information and communications technology strategic management and coordination, and information and communications technology operations, in the biennium 2010-2011.

197. The current organizational structure of the Office of Information and Communications Technology consists of a small Office of the Chief Information Technology Officer, which is supported by two distinct types of organizational unit: for staff-related functions and line functions. The Strategic Management Service and the Operations Support Section are staff functions, which plan and coordinate activities that affect all ICT units in the Secretariat. Line function units, which perform developmental and operational ICT activities, are contained within the Programme Management Division, comprised of the Resource Management Service, the Knowledge Management Service, the Field Systems Service and the Infrastructure Management Service.

198. Currently the Office of Information and Communications Technology consists of 161 staff, 32 general temporary assistance personnel and 173 contractual personnel, located within its above-mentioned Division and Services. Out of 193 staff and non-staff positions, 23 are currently in various stages of recruitment.

199. A key finding of the ICT structural review was that the Office of Information and Communications Technology lacks a significant number of resources required to carry out its mandate. In the report contained in document A/62/793 and Corr.1 and A/62/793/Add.1 it was established that the Office must be provided with the critical resources to manage ICT activities that affect the entire Organization (paras. 33 and 35). These activities include developing overall strategic direction, managing global resources across the Organization, setting architecture and policy and implementing enterprise systems and infrastructure.

200. At present, resource levels in the Office of Information and Communications Technology reflect the mandate of its predecessor, the Information Technology Services Division of the Department of Management, which was primarily responsible for providing core communications, server and applications to United Nations Headquarters, and wide area network support and limited application and policy support to other entities within the Secretariat. This workload has significantly increased in recent years as demand for ICT services has grown, although there have not been commensurate increases in posts and other resources. At the same time, the mandate of the Office of Information and Communications Technology is vastly broader than that of the former Information Technology Services Division, and as such the level of resources, the grade level of staff and the expertise required to fulfil the new mandate is substantially different to that of the current workforce. In particular, a significant resource gap exists in cross-cutting functions, such as ICT policy, architecture and standards setting, departmental ICT budget reviews and global portfolio management.

201. With the formation of the Office of Information and Communications Technology, a number of existing resources have been redeployed to the Strategic Management Service to enable the Office to initiate the strategic, cross-cutting programmes of its new mandate. While the redeployed resources are far from sufficient to fulfil the organization-wide mandate, this redeployment of posts has also degraded the ability of the Programme Management Division to carry out its existing responsibilities and severely hampered efforts to provide Organization-wide services beyond United Nations Headquarters as required by the new mandate.

202. The cumulative burden of increased ICT demand, increased workload and increased mandates has led to intensive staff augmentation over the past years and, in some cases, has resulted in outsourcing of mission-critical work at a high risk to the Organization. The proposal contained in the present report aims to correct this imbalance and to strengthen the capacity of the Office through reorganization and additional resources. This will enable the Office to fulfil the needs of the Organization in the most effective manner. Adequate posts and resources are needed before existing mandates can be met and new projects can be planned and executed.

203. This proposal targets areas of the Office of Information and Communications Technology where resources are currently lacking and where increases in capacity would substantially improve the delivery of services to the Organization. The resource request is calibrated to reflect the workload needed to deliver under the mandate set out in the ICT strategy (A/62/793 and Corr.1 and A/62/793/Add.1), and takes into account the posts that are currently under recruitment. Table 13 provides a summary of the mandate of the Office of Information and Communications Technology and the level of resources currently available to carry out various elements of the mandate.

Table 13
Mandate of the Office of Information and Communications Technology and resource levels

Mandate from approved ICT strategy (A/62/793 and Corr.1)	*New/existing mandate*	*Resources provided*
Development of the ICT strategy for the Secretariat and coordination of its implementation (para. 35 (a))	New	None
Reviewing budgets from all funding sources for all ICT initiatives and operations of the Secretariat (para. 35 (b))	New	None
Monitoring, measuring and evaluating the performance of ICT units against established goals, objectives and budgetary targets, utilizing accountability frameworks as appropriate (para. 35 (c))	New	None
Setting the technological direction and architecture for the Organization (para. 35 (d))	New	None
Planning and developing all organization-wide ICT applications, including an enterprise resource planning system and other major systems (para. 35 (e))	Existing	Limited (except for Umoja)
Planning and developing the overall infrastructure architecture encompassing the communications networks and data centres of the Organization (para. 35 (f))	Existing	Limited
Using the Organization's global presence and ICT infrastructure to develop and operate Secretariat-wide applications and infrastructure in order to maximize benefits and cost-effectiveness (para. 35 (g))	Existing	Limited
Undertaking, in collaboration with other ICT units, ICT research and development activities (para. 35 (h))	New	None
Overseeing the assessment and management of ICT risks for the Organization (para. 35 (i))	New	None
Developing and maintaining the information security policy of the Organization and monitoring compliance across operational units (para. 35 (j))	Existing	Limited
Managing the implementation of disaster recovery and business continuity plans for the Organization (para. 35 (k))	Existing	Limited
Coordinating ICT human resources management programme and activities, including staff development and mobility of all ICT staff in the global Secretariat (para. 35 (l))	New	None
Providing business consulting and project management methodologies and services to all ICT units (para. 35 (m))	New	Limited
Monitoring, measuring and evaluating the performance and strategic alignment of all projects and investment initiatives in the ICT project portfolio of the global Secretariat (para. 35 (n))	New	None

Mandate from approved ICT strategy (A/62/793 and Corr.1)	*New/existing mandate*	*Resources provided*
Establishing ICT vendor (sourcing) management policies; reviewing and monitoring purchasing and contract renewal activities. Coordinating vendor management selection, procurement and management strategies across the ICT organization (para. 35 (o))	New	None
Implementing quality assurance processes to ensure that all policies, processes and standards are in compliance (para. 35 (p))	New	Limited
Establish client services function (para. 42)	New	Limited
Perform the executive office function of the Office	New	Limited

Project objectives

204. The objectives of this project are:

(a) To augment ICT resources in high-priority areas where there is currently a significant gap between the mandate given and available resources. High-priority areas are:

(i) Oversight and coordination functions of the Office of the Chief Information Technology Officer;

(ii) Cross-cutting, organization-wide ICT management functions;

(iii) Enterprise application development, in particular in knowledge management and field systems areas;

(iv) Global infrastructure oversight, architecture and engineering;

(v) Executive office functions;

(b) To realign and strengthen the organizational structure of the Office of Information and Communications Technology to further improve its operational effectiveness and efficiency.

Benefits

205. The following benefits are expected through the strengthening of the Office of Information and Communications Technology.

206. Improved effectiveness will include:

(a) **Effective change management**. ICT creates a tremendous amount of change in the Organization, yet insufficient attention has been given to how changes are managed to minimize disruptions to the Organization and maximize user acceptance during times of change. With ICT staff specializing in and dedicated to change management, large strategic and operational changes caused by ICT will be well planned, coordinated and managed;

(b) **Strategic planning and management**. The establishment of policy and standards that govern how ICT is operated and the creation of appropriate monitoring mechanisms for proposed functions will ensure that ICT strategy cascades to all ICT areas and that all parties understand how to align and comply with the strategic and tactical direction;

(c) **Alignment of business and ICT**. A strong client services function will ensure alignment of ICT with Organization-wide business priorities, reduce redundant initiatives and improve customer service levels;

(d) **Increased transparency of ICT capacities**. New functions in the Office provide a corporate view of ICT capacities across the Secretariat, which in turn enables accurate reporting to the Member States and prioritization of ICT resources and investments;

(e) **Reduced duplication of efforts**. Strengthened enterprise application capacity in the Office will enable the Organization to develop and deliver enterprise applications in both resource and knowledge management programmes, reducing the need for departments to develop their own systems and reducing fragmentation;

(f) **Availability of shared infrastructure services**. Strengthened infrastructure engineering capacity in the Office will enable the Organization to accelerate its infrastructure development efforts, share infrastructure assets thus reducing the need for departments to develop their own infrastructure, reduce the cost of ICT services and increase quality and reliability.

Implementation plan

Approach

207. The Office of Information and Communications Technology has analysed its staffing requirements within its total existing resources. To address the lack of capacity in critical areas, 10 positions that support existing functions have been identified through prioritization as candidates for redeployment within the Office. A further redeployment of existing resources would put core services, such as network, telephone and e-mail support at risk, which is not a prudent option. In addition to post redeployments, 51 new posts are needed to enable the Office to fulfil its new mandate, as described in A/62/793 and Corr.1 and A/62/793/Add.1.

208. Given the dramatic change in the scope and mandate of the Office, an incremental approach to the restructuring and strengthening of the Office in two phases is proposed. The first phase establishes new functions and broadens the scope of existing functions in line with the global mandate of the Office. Global ICT management processes and frameworks will be designed and implemented during this phase. Once a critical mass has been achieved, the second phase will build additional staff capacity over the following two years. A gradual approach minimizes risk and the unavoidable disruptions associated with organizational change.

209. The first phase includes the establishment of 23 new posts in the Office of Information and Communications Technology for the biennium 2010-2011. During this phase, the Office will transition to a new organizational structure and initiate the implementation of a number of ICT structures and frameworks that will begin to eliminate the current fragmentation of the ICT environment and provide the foundation for creating an efficient ICT organization. The proposed posts will carry out the highest priority planning and management of global ICT functions by establishing governance, policies, processes and standards for the entire Secretariat. In a few select cases, strengthening of existing critical functions that have not been resourced adequately to date and where no internal resources could be identified for redeployment have been included in the first phase.

210. The second phase includes the establishment of an additional 28 new posts during the biennium 2012-2013. Once the underlying frameworks and structures have been established, additional capacity will be required to implement and operate the frameworks across the Secretariat. During the second phase, fragmentation of the global ICT environment will be reduced. The existing ICT environment will be streamlined and consolidated. Posts will be added in the areas of enterprise application development, global infrastructure management and ongoing functions needed to plan and improve the global ICT environment. During the latter part of the second phase, fragmentation of the environment will begin to be reversed as further application and infrastructure consolidations take place.

211. In the paragraphs below, the proposed restructuring of the Office is explained in greater detail. Specific benefits expected from the realignment and strengthening of the Office, and the results that are expected from the creation of new posts, are identified. They will be used to demonstrate the success of ICT strategy implementation. Table 14 summarizes the requested resources according to the aforementioned time frames.

Office of the Chief Information Technology Officer

212. The Office of the Chief Information Technology Officer provides direct support to the Chief Officer in meeting his responsibilities, namely, providing vision, leadership and strategic guidance on all ICT matters throughout the Secretariat, overseeing the implementation of ICT strategy, accelerating and enhancing existing ICT efforts and launching new ICT initiatives that achieve coherence and eliminate duplication and fragmentation of ICT. An enhanced capacity in the Office of the Chief Officer is essential to drive the implementation of the organization-wide ICT strategy. Specifically, additional capacity in the areas of change management, strategic management, communications and administrative support will ensure the achievement of the goals.

213. The current staffing establishment of three posts (1 P-5 and 2 General Service (Other level)) has proved to be vastly insufficient to assist the Chief Information Technology Officer in meeting the strategic and operational needs of the Secretariat. It is proposed to strengthen the Office of the Chief Officer with four Professional level posts, three new posts (1 D-1, 1 P-4 and 1 P-3), and one post redeployed from the Resource Management Service (1 P-5) and one new General Service post (Principal level). The four Professional posts (1 D-1, 1 P-4, 1 P-3 and redeployment of 1 P-5) are proposed to be effective 1 January 2011, while the addition of one General Service (Principal level) post will be requested in the biennium 2012-2013.

Executive Office

214. The existing Operations Support Section was created to provide central administrative services for the Office as a whole in the areas of human resources, finance and general administration, and to assist the Chief Information Technology Officer, programme managers and staff members in carrying out the full range and scope of financial, personnel and administrative support services delegated by the Under-Secretary-General for Management as defined in section 7 of document ST/SGB/1997/5. The Operations Support Section also provides administrative support for information and communications technology services, including billing services for telephone and facsimile charges, processing of contracts and related

invoicing and cost recovery services for all telecommunications carriers and user departments and offices at Headquarters, as well as other services related to information and communications technology. It is also responsible for liaising with the Office of Human Resources Management, the Office of Programme Planning, Budget and Accounts and the Office of Central Support Services on personnel, financial and other services on behalf of the Office of Information and Communications Technology.

215. Under the current proposal, the Operations Support Section would be reorganized as part of the Executive Office. To provide sufficient support to the Chief Information Technology Officer, programme managers and staff members in carrying out the full scope of their responsibilities, it is necessary to strengthen the Executive Office in the areas of human resources and financial and contract management, as the current resource level of 14 posts (2 Professional (1 P-5 and 1 P-3), 2 General Service (Principal level) and 10 General Service (Other level)) is insufficient to carry out the workload. It is proposed to strengthen the Executive Office by establishing two new posts (2 P-4) effective 1 January 2011. An additional two new posts (1 P-4 and 1 P-2) will be requested in the biennium 2012-2013.

Enterprise Management Division

216. The existing Strategic Management Service was established to plan and coordinate a number of essential ICT activities that affect all ICT units in the Secretariat and is vested with substantive responsibility for the implementation of subprogramme 5, Information and communications technology strategic management and coordination, of programme 24E of the strategic framework, which includes development of global information and communications technology management and governance structures; resource and infrastructure management; and enhancement of service and performance management. Given that the Office of Information and Communications Technology was established on a cost-neutral basis, the strategic framework for the period 2010-2011 is based on part of the overall mandate of the Office, currently carried out with 16 regular budget posts (1 D-1, 2 P-5, 5 P-4, 3 P-3 and 5 General Service (Other level)) redeployed from the former Information Technology Services Division.

217. A number of critical cross-cutting functions are currently not being carried out because of a lack of resources. The ICT structural review has confirmed that an insufficient number of personnel are dedicated to Organization-wide activities. Without strengthening the cross-cutting functions described earlier, such as enterprise architecture and application portfolio management, the Office of Information and Communications Technology is unable to reduce fragmentation and achieve standardization of the ICT environment.

218. It is proposed that the Strategic Management Service be reorganized into the Enterprise Management Division, enabling the Office of Information and Communications Technology to develop enterprise architecture, strengthen the management of ICT risks and security, increase capacity for the development and delivery of ICT policies and standards (including monitoring to ensure compliance), drive the alignment of organizational ICT resources and capacities consistent with Organization-wide priorities and enhance the ability of the Office to cascade ICT strategy across all ICT units in the Secretariat. To achieve this mandate, additional capacity is needed in the areas of enterprise architecture, technology research, ICT

risk and security management, ICT business continuity, ICT strategic planning, client services and business relationship management, ICT performance management, ICT portfolio management and business process re-engineering. Given the range of activities and functions included in the subprogramme, it is proposed to redeploy five posts internally within the Office (1 P-5 and 1 General Service (Principal level)) from the Knowledge Management Service, one P-2 and two General Service (Other level) from the Infrastructure Management Service and to create 22 new posts (1 D-2, 1 D-1, 3 P-5, 10 P-4 and 10 P-3). Of the 22 new posts, 12 posts (1 D-2, 1 D-1, 1 P-5, 5 P-4 and 4 P-3) are proposed to be established effective 1 January 2011. An additional 10 posts (2 P-5, 5 P-4 and 3 P-3) will be requested in the biennium 2012-2013.

219. It is expected that the following results will be achieved as a result of creation of the Enterprise Management Division:

(a) Transparency and ongoing optimal allocation of organizational ICT resources;

(b) Increased number of business needs addressed through enterprise applications and reduction in current and future application and infrastructure fragmentation and duplication of work;

(c) Improved business relationship between ICT and business areas and increased alignment of ICT solutions to business needs;

(d) Creation of an ICT risk management framework to mitigate risks and improve the ability of the Organization to respond to ICT threats;

(e) Creation of an enterprise architecture framework and development of future-state strategies and solution architecture that meet business needs;

(f) Establishment of an ICT performance management framework and increased utilization of available organizational ICT capacities;

(g) Increased compliance of departments with promulgated ICT policies and standards.

Application Management Division

220. The existing Programme Management Division was established to plan, deploy and support application solutions for the Organization as specified in document A/62/793 and Corr.1 and A/62/793/Add.1. The existing Division has four primary services: the Knowledge Management Service; the Resource Management Service; the Field Systems Service; and the Infrastructure Management Service, and 127 posts (1 D-2, 3 D-1, 9 P-5, 20 P-4, 30 P-3, 10 P-2, 12 General Service (Principal level), 41 General Service (Other level) and 1 Trades and crafts).

221. The Programme Management Division is vested with substantive responsibility for the implementation of subprogramme 6, Information and communications technology operations, of programme 24E of the strategic framework, which includes translating the Organization's functional and operational requirements into effective and efficient acquisition and implementation of information and communications technology solutions, with a focus on improving the management of information and resources; identifying service requirements and defining commensurate delivery and support activities and structures; defining

comparable levels of performance with industry benchmarks and monitoring performance; promoting the appropriate use of open-source software in the Secretariat; and enhancement of service and performance management.

222. The structural review has found that, Secretariat-wide, more than half of application development personnel are allocated to local application development and maintenance activities,[7] reinforcing the proliferation of disparate applications and reducing the resources available to develop enterprise applications. While the structural review projects will eventually increase the availability of personnel allocated to enterprise application development, resources are needed immediately to accelerate the development of enterprise and major shared applications, especially in the knowledge management and field mission areas. There is a significant gap between the business needs and the capacity of the Office of Information and Communications Technology to deliver enterprise solutions.

223. It is therefore necessary to strengthen the current Programme Management Division by adding enterprise application development capacity. The division would be renamed the Application Management Division and would consist of the Knowledge Management Service, the Resource Management Service and the Field Systems Service. Additional resources would strengthen the ability of the Office of Information and Communications Technology to deliver and maintain enterprise solutions, which in turn drive uniformity of organizational business processes, reduce the application portfolio and introduce efficiencies in both the ICT and business areas. It is proposed to strengthen the Division by redeploying four posts (4 GS (Other level)) from the Infrastructure Management Service and establishing 11 new posts (1 D-1, 2 P-5, 3 P-4, 7 P-3, 3 P-2 and 3 GS (Other level)), of which three new posts (1 P-5, 1 P-4 and 1 P-3) are proposed to be established effective 1 January 2011. The additional eight new posts (1 D-1, 1 P-5, 1 P-4, 2 P-3 and 3 P-2) will be requested in the biennium 2012-2013 to strengthen capacity in the area of development of knowledge management enterprise applications.

224. It is expected that the following results would be achieved as a result of creation of the Application Management Division:

(a) Increased availability of Organization-wide solutions, especially in the knowledge management area and for the field;

(b) Increased standardization of organizational business processes;

(c) Reduction of fragmented applications and siloed solutions;

(d) Reduction in related infrastructure, data centre and disaster recovery and business continuity requirements.

Infrastructure Management Division

225. Infrastructure management is the technological foundation that enables the Office of Information and Communications Technology to support the United Nations Secretariat in the fulfilment of its mandates, such as effectively responding

[7] At United Nations Headquarters, offices away from Headquarters, the regional commissions and the international tribunals, 55 per cent of all application development personnel are allocated to local application development, while only 45 per cent are allocated to enterprise application development Secretariat-wide. The situation in field missions is similar, with only 44 per cent of application development personnel allocated to enterprise application development.

to global emergencies, providing support for global peacekeeping operations and the provision of day-to-day tools for vital enterprise applications such as e-mail, IMIS and ODS and the infrastructure that supports voice, data, Internet Protocol television, physical security and closed-circuit television operations and video communications globally. There is a constant need to ensure timely and secure communications and information exchange within the Secretariat, offices away from Headquarters and field missions and to support global information systems. In addition, the adoption of an enterprise approach to information systems and the need to provide and maintain complex integrated technology solutions for Secretariat-wide activities is central to meeting the core strategic, operational and tactical mandates of the Office of Information and Communications Technology.

226. The current Infrastructure Management Service is mostly set up to deliver services within United Nations Headquarters; however, the new mandate calls for planning and developing an extended infrastructure architecture, encompassing the communications networks and data centres of the entire Organization, as well as continuing to operate Secretariat-wide applications and infrastructure. The proposed organizational structure of the Office of Information and Communications Technology arising from expanded mandates and additional responsibilities described in the ICT strategy includes the creation of an Infrastructure Management Division, which will absorb the functions currently performed by the Infrastructure Management Service of the existing Programme Management Division and will incorporate the global mandates of the Office. The current Service comprises 75 of the 127 existing posts in the Programme Management Division (see para. 220 above). It is proposed to establish the new division with a net increase of 3 posts through the outward redeployment of one P-2 and six General Service (Other level) posts, to other Divisions of the Office of Information and Communications Technology and the addition of 10 new posts (1 D-2, 1 D-1, 3 P-5, 3 P-4 and 2 P-3). It is proposed that 3 new posts (1 D-2, 1 D-1 and 1 P-4) of the 10 new posts be established effective 1 January 2011 and the balance of seven new posts (3 P-5, 2 P-4 and 2 P-3) will be requested in the biennium 2012-2013 as global infrastructure becomes standardized and more streamlined and global data centres operational. This new division will provide sufficient managerial oversight for the scale and scope of global telecommunications and information technology activities included in the mandate of the Office, which also relies heavily on performance-based third party contracts.

227. The Infrastructure Management Division will fulfil the mandate set out in the ICT strategy as follows:

(a) Planning and developing the global infrastructure architecture and engineering;

(b) Using the Organization's global presence and ICT infrastructure to develop and leverage Secretariat-wide applications and infrastructure in order to maximize benefits and cost-effectiveness.

228. It is expected that the following results would be achieved as a result of creation of the Infrastructure Management Division:

(a) Increased availability and reliability of organizational infrastructure;

(b) Increased consolidation and optimization of infrastructure;

(c) Implementation of an ICT disaster recovery plan and business continuity;

(d) Consistent delivery of Information Technology Infrastructure Library processes for the infrastructure project life cycle, including demand, capacity, configuration and change management;

(e) Improved management effectiveness of non-post resources such as vendors and contractors that coordinate processes, methodologies and project implementations.

229. To ensure the cohesiveness of the envisaged new units in the Office of Information and Communications Technology, the recruitment of new positions will follow a top-down approach in which senior-level positions are staffed first to ensure manager participation in the building of individual units.

Schedule and resource requirements

230. The overall estimated cost for implementing this project amounts to $21,879,300, with first year start-up costs estimated to be $3,523,800, as indicated in table 14 below. Resource requirements for the biennium 2010-2011 are proposed in the present report and requirements for the future bienniums will be made in the respective budget submissions.

231. The proposed posts will be staffed starting in 2011 and continuing through 2013 and are estimated at a total cost of $16,156,400, including an amount of $2,296,100 in the biennium 2010-2011 and $13,860,300 in the biennium 2012-2013. The total cost of non-post resources are estimated at $5,722,900, including an amount of $1,227,000 in the biennium 2010-2011 and $2,661,000 in the biennium 2012-2013.

232. For the biennium 2014-2015, the total cost of all proposed posts will amount to $17,877,600, representing the cost of 23 posts established in 2010-2011 ($8,825,500) and the cost of 28 posts established in 2012-2013 ($9,052,100), which in turn includes the delayed impact ($4,017,300). The total cost of non-post resources are estimated at $1,834,200 in the biennium 2014-2015.

Table 14
Total resource requirements for implementation of the project to strengthen the Office of Information and Communications Technology

(Thousands of United States dollars)

Object of expenditure	*2010-2011*	*2012-2013*	*2014-2015*	*Total*
Strengthen the Office of Information and Communications Technology				
Posts	2 296.1	13 860.3	—	**16 156.4**
Contractual services	57.7	237.1	230.4	**525.2**
General operating expenses	934.7	2 152.2	1 603.8	**4 690.7**
Supplies and materials	11.5	14.0	—	**25.5**
Furniture and equipment	223.8	257.7	—	**481.5**
Total	**3 523.8**	**16 521.3**	**1 834.2**	**21 879.3**

Resource requirements for the biennium 2010-2011

Posts

233. An amount of $2,296,100 is proposed for the establishment of 23 posts (2 D-2, 3 D-1, 2 P-5, 10 P-4 and 6 P-3), effective 1 January 2011, as shown in tables 15 and 16 below.

Contractual services

234. An amount of $57,700 is requested for local area network and communications and information technology service level agreements.

General operating expenses

235. An amount of $934,700 is requested for common support costs covering rental charges, minor alterations of office space and telephone and facsimile services related to the new positions requested under this project.

Supplies and materials

236. An amount of $11,500 is requested to cover the costs of office supplies related to the new positions requested under this project.

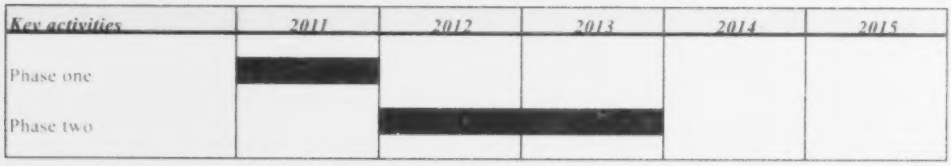
Furniture and equipment

237. An amount of $223,800 is requested to cover the costs of providing furniture and office automation equipment for the new positions requested under this project.

Biennium 2012-2013 and beyond

238. A cost forecast for the project has been estimated as accurately as possible; however, it will be updated in subsequent progress reports and will be included in the relevant proposed programme budget outlines as further levels of detail become available.

Figure XIII
Strengthen the Office of Information and Communications Technology project schedule



239. The tables below provide a summary of current authorized and proposed post requirements by level and by year.

240. All new posts reflected in the present report are proposed to be established as from 1 January 2011. Given that the Advisory Committee on Administrative and Budgetary Questions recommended that information on the delayed impact of posts be reflected in any new proposals (see A/62/7, para. 20), the General Assembly may wish to note that the additional requirements for the full costing of the proposed 23 new posts in the biennium 2012-2013 are currently estimated at $5,989,400.

Table 15
Authorized and proposed post requirements for the Office of Information and Communications Technology

2010-2011	*ASG*	*D-2*	*D-1*	*P-5*	*P-4*	*P-3*	*P-2/1*	*GS-PL*	*GS-OL*	*TC*	*Total*
Authorized posts											
Office of the Chief Information Technology Officer	1	—	—	1	—	—	—	—	2		**4**
Strategic Management Service	—	—	1	2	5	3	—	—	5		**16**
Operations Support Section	—	—	—	1	—	1	—	2	10		**14**
Programme Management Division	—	1	3	9	20	30	10	12	42		**127**
Office of the Director	—	1	—	—	—	—	—	—	1		**2**
Resource Management Service	—	—	1	3	4	7	5	1	4		**25**
Knowledge Management Service	—	—	1	3	4	4	1	2	—		**15**
Field Application Section	—	—	—	—	3	4	2	—	1		**10**
Infrastructure Management Service	—	—	1	3	9	15	2	9	35	1	**75**
Total	**1**	**1**	**4**	**13**	**25**	**34**	**10**	**14**	**58**	**1**	**161**

2010-2011	*ASG*	*D-2*	*D-1*	*P-5*	*P-4*	*P-3*	*P-2/1*	*GS-PL*	*GS-OL*	*TC*	*Total*
Proposed posts											
Office of the Chief Information Technology Officer	1	—	1	2	1	1	—	—	2		**8**
Executive Office	—	—	—	1	2	1	—	2	10		**16**
Enterprise Management Division	—	1	2	4	10	7	1	1	7		**33**
Office of the Director	—	1	—	—	—	1	—	—	1		**3**
Policy, Architecture and Standards Service	—	—	1	2	4	4	1	1	2		**15**
Strategy and Programme Management Service	—	—	1	2	6	2	—	—	4		**15**
Application Management Division	—	1	2	5	12	16	8	2	10		**56**
Office of the Director	—	1	—	—	—	—	—	—	1		**2**
Resource Management Service	—	—	1	2	4	7	5	1	4		**24**
Knowledge Management Service	—	—	1	2	5	5	1	1	4		**19**
Field Systems Service	—	—	—	1	3	4	2	—	1		**11**
Infrastructure Management Division	—	1	2	3	10	15	1	9	29	1	**71**
Office of the Director	—	1	—	—	1	—	1	—	1		**4**
Infrastructure Planning and Engineering Service	—	—	1	—	2	12	—	7	11		**33**
Infrastructure Operations and User Support Service	—	—	1	3	7	3	—	2	17	1	**34**
Total	**1**	**3**	**7**	**15**	**35**	**40**	**10**	**14**	**58**	**1**	**184**
Change	**—**	**2**	**3**	**2**	**10**	**6**	**—**	**—**	**—**		**23**

2012-2013	*ASG*	*D-2*	*D-1*	*P-5*	*P-4*	*P-3*	*P-2/1*	*GS-PL*	*GS-OL*	*TC*	*Total*
Proposed posts											
Office of the Chief Information Technology Officer	1	—	1	2	1	1	—	1	2		**9**
Executive Office	—	—	—	1	3	1	1	2	10		**18**
Enterprise Management Division	—	1	2	6	15	10	1	1	7		**43**
Office of the Director	—	1	—	—	—	1	—	—	1		**3**
Policy, Architecture and Standards Service	—	—	1	3	5	6	1	1	2		**19**
Strategy and Programme Management Service	—	—	1	3	10	3	—	—	4		**21**
Application Management Division	—	1	3	6	13	18	11	2	10		**64**
Office of the Director	—	1	—	—	—	—	—	—	1		**2**
Resource Management Service	—	—	1	2	4	7	5	1	4		**24**
Knowledge Management Service	—	—	1	2	6	7	4	1	4		**25**
Field Systems Service	—	—	1	2	3	4	2	—	1		**13**
Infrastructure Management Division	—	1	2	6	12	17	1	9	29	1	**78**
Office of the Director	—	1	—	—	1	—	1	—	1		**4**
Infrastructure Planning and Engineering Service	—	—	1	2	4	14	—	7	11		**39**
Infrastructure Operations and User Support Service	—	—	1	4	7	3	—	2	17	1	**35**
Total	**1**	**3**	**8**	**21**	**44**	**47**	**14**	**15**	**58**	**1**	**212**
Change	**—**	**—**	**1**	**6**	**9**	**7**	**4**	**1**	**—**		**28**

Table 16
Office of Information and Communications Technology post requirements in 2010-2011

Category	*2010-2011*	*2011*	*Change*
Professional and above			
Under-Secretary-General	—	—	—
Assistant Secretary-General	1	1	—
D-2	1	3	**2**
D-1	4	7	**3**
P-5	13	15	**2**
P-4	25	35	**10**
P-3	34	40	**6**
P-2/P-1	10	10	—
Subtotal	**88**	**111**	**23**
General Service			
Principal level	14	14	—
Other level	58	58	—
Trades and crafts	1	1	—
Subtotal	**73**	**73**	—
Total	**161**	**184**	**23**

IV. Summary of resource requirements and request for action by the General Assembly

A. Summary of resource requirements

241. As shown in table 17 below, it is estimated that a total of $118,796,000 (at current rates) will be required for the implementation of the three structural projects: (a) globalize service desk; (b) streamline data centres; and (c) rationalize the ICT organization. The amount represents both project and start-up operational costs for the period from 2011 to 2015. It should be noted that the total amount required for the biennium 2010-2011 is estimated at $5,011,600.

242. It is estimated that a total amount of $21,879,300 (at current rates) will be required to strengthen the Office of Information and Communications Technology. This amount represents the cost of establishing 23 posts in the biennium 2010-2011 and 28 posts in the biennium 2012-2013. The total amount required for the biennium 2010-2011 is estimated at $3,523,800.

243. It is proposed that the total resource requirements, as shown in tables 18 and 19 below, be financed from among the regular budget, the support account for peacekeeping operations and extrabudgetary resources, based on the cost-sharing formula for Umoja, in the following percentages: 15 per cent from the regular budget, 62 per cent from the support account for peacekeeping operations, and

23 per cent from the special accounts for programme support costs (to which overhead income generated by expenditures relating to technical cooperation and general trust funds, as well as reimbursement for administrative support provided by the Organization to extrabudgetary entities such as UNDP and UNICEF, are credited).

Table 17
Summary of net resource requirements by project (full project cost at current rates)
(Thousands of United States dollars)

Project	*2010-2011*	*2012-2013*	*2014-2015*	*Total*
Globalize service desk	1 614.9	19 655.0	36 774.8	**58 044.7**
Streamline data centres	1 906.2	12 391.3	41 833.3	**56 130.8**
Rationalize the ICT organization	1 490.5	2 130.0	1 000.0	**4 620.5**
Subtotal	**5 011.6**	**34 176.3**	**79 608.1**	**118 796.0**
Strengthen the Office of Information and Communications Technology	3 523.8	16 521.3	1 834.2	**21 879.3**
Total	**8 535.4**	**50 697.6**	**81 442.3**	**140 675.3**

Table 18
Summary of net resource requirements by source of funds (full project cost at current rates)
(Thousands of United States dollars)

Source of funds	*2010-2011*	*2012-2013*	*2014-2015*	*Total*
Regular budget	1 280.3	7 604.6	12 216.4	**21 101.3**
Peacekeeping support account	5 292.0[a]	31 432.5	50 494.2	**87 218.7**
Extrabudgetary	1 963.1	11 660.5	18 731.7	**32 355.3**
Total	**8 535.4**	**50 697.6**	**81 442.3**	**140 675.3**
Contingency provision	—	—	—	—
Total	**8 535.4**	**50 697.6**	**81 442.3**	**140 675.3**

[a] For the periods 1 July 2010 to 30 June 2011 and 1 July 2011 to 30 June 2012.

Table 19
Total resource requirements for implementation of ICT structural review projects
(Thousands of United States dollars)

Object of expenditure	*2010-2011*	*2012-2013*	*2014-2015*	*Total*
Posts	2 296.1	13 860.3	—	**16 156.4**
Other staff costs	1 866.4	4 174.0	6 514.4	**12 554.8**
Consultants and experts	1 753.5	4 947.9	5 529.6	**12 231.0**
Travel of staff	150.0	1 350.0	4 750.0	**6 250.0**
Contractual services	278.1	6 224.7	16 337.0	**22 839.8**

Object of expenditure	*2010-2011*	*2012-2013*	*2014-2015*	*Total*
General operating expenses	1 705.0	3 763.9	3 820.6	**9 289.5**
Supplies and materials	23.5	8 622.4	25 998.9	**34 644.8**
Furniture and equipment	462.8	7 754.4	18 491.8	**26 709.0**
Total	**8 535.4**	**50 697.6**	**81 442.3**	**140 675.3**

B. Actions to be taken by the General Assembly

244. **The transformational projects presented in the present report will result in significant improvements in effectiveness and efficiency in the Organization and institute an organization-wide approach to ICT that is consistent with the expectations of Member States, a goal that is unattainable under current conditions. Optimal use of ICT resources will significantly benefit the Secretariat in meeting its mission and programme goals effectively.**

245. **The General Assembly is requested:**

(a) **To reaffirm the importance of and increasing reliance on information and communications technology in meeting the growing demands of the Organization;**

(b) **To note progress to date in the implementation of the ICT strategy and the intended future direction, as described in section II of the present report;**

(c) **To authorize the Secretary-General to establish a multi-year special account, as described in section II of the present report, to record income and expenditures for the ICT structural review projects;**

(d) **To endorse the proposed unified ICT disaster recovery plan as it relates to the Organization's business continuity approach, as described in section II of the present report, by leveraging the existing facilities at UNLB and the proposed UNSB in Valencia through the creation of two enterprise data centres, and to endorse an extension of the existing lease of the secondary data centre for another 30 months beyond 31 December 2011, pending the further work required before the implementation of the proposed plan;**

(e) **To note that future requirements for implementation of the strategic programmes (knowledge management, resource management and infrastructure management) will be presented in the context of the proposed programme budget for the relevant bienniums;**

(f) **To endorse the three ICT structural review projects (globalize service desks, streamline data centres and rationalize the ICT organization) as described in section III of the present report, and to endorse the total cost of implementing the projects, over the bienniums 2010-2011, 2012-2013 and 2014-2015, estimated at $118,796,000 (at current rates);**

(g) **To endorse the strengthening of the Office of Information and Communications Technology, as described in section III of the present report, and to endorse the total cost thereof, over the bienniums 2010-2011 and 2012-2013, estimated at $21,879,300 (at current rates);**

(h) To note that, should the 28 new posts proposed for the biennium 2012-2013 be approved, the delayed impact is estimated at $4,017,300;

(i) To note that the total resource requirements for the biennium 2010-2011, as described in the present report, estimated at $8,535,400, is proposed to be distributed as follows:

(i) Regular budget:

a. An amount of $978,300 under section 29, Information and Communications Technology, and an amount of $302,010 under section 28D, Office of Central Support Services, of the programme budget for the biennium 2010-2011;

b. Future remaining requirements in an estimated amount of $19,820,985 would be considered in the context of the proposed programme budget for the relevant bienniums;

(ii) Support account for peacekeeping operations:

a. An amount of $3,528,000 to be financed as an additional appropriation from the support account for peacekeeping operations for the period from 1 July 2010 to 30 June 2011 to meet the requirements related to all four projects for the biennium 2010-2011, as described in the present report;

b. Future remaining requirements in an estimated amount of $9,622,100 would be considered in subsequent support account for peacekeeping operations requirements for the financial period from 1 July 2011 to 30 June 2012;

c. Future remaining requirements in an estimated amount of $74,068,600 will be included in subsequent support account for peacekeeping operations requirements for the financial periods, until the period 1 July 2014 to 30 June 2015;

(iii) Extrabudgetary resources

An estimated amount of $1,963,142 of the overall cost of all projects for the biennium 2010-2011 would be financed from extrabudgetary resources;

(j) To approve the following additional appropriations:

(i) An amount of $1,280,310 under the programme budget for the biennium 2010-2011, for Section 29, Information and Communications Technology ($978,300), and Section 28D, Office of Central Support Services ($302,010);

(ii) An amount of $3,528,000 under the support account for peacekeeping operations for the period 1 July 2010 to 30 June 2011.

Annex I

Estimated annualized information and communications technology proposed budget for the Secretariat for 2010[a]

(Thousands of United States dollars)

Department or office	*Regular budget*[b]	*Extrabudgetary*[c]	*Peacekeeping*[d]	*Support account*[e]	*Total*
Office of Information and Communications Technology	36 059.4			17 917.5	53 976.9
Department of Field Support and field missions	40 701.1		524 191.8	18 999.4	583 892.3
Other departments at Headquarters	63 194.8	13 748.8		10 619.6	87 563.2
Regional commissions	14 595.8	117.5			14 713.3
International Criminal Tribunal for Rwanda	686.5				686.5
International Tribunal for the Former Yugoslavia	686.5				686.5
United Nations Office at Geneva	9 433.5	2 948.7			12 382.2
United Nations Office at Nairobi, United Nations Environment Programme and United Nations Human Settlements Programme	2 561.2	3 527.3			6 088.5
United Nations Office at Vienna and United Nations Office on Drugs and Crime	4 490.4	9 967.4			14 457.8
Total	**172 409.2**	**30 309.7**	**524 191.8**	**47 536.5**	**774 447.2**

[a] Calculated by using proposed information technology and communications budgets for Secretariat departments, offices and missions across budgetary sources for 2010. In order to arrive at a simplified annualized figure, 2010-2011 proposed regular budget sources were simply divided by 2. 2010-2011 extrabudgetary sources were provided and validated by departments and offices in response to a survey conducted in 2010.

[b] Derived from A/64/6 (Introduction); A/64/6, sections 28A, 28E, 28F and 28G; A/64/349/Add.3; A/64/349/Add.4 and A/64/349/Add.5.

[c] Annualized ICT extrabudgetary figures were validated by the respective departments and offices.

[d] Proposed budgetary levels for peacekeeping operations for the period from 1 July 2009 to 30 June 2010 based on A/C.5/63/24 and A/64/465.

[e] Budget for the support account for peacekeeping operations for the period from 1 July 2009 to 30 June 2010.

[f] The total estimated annualized ICT proposed budget for the United Nations Secretariat for 2010 does not include the proposed ICT portion of section 33 of the budget ($16,685,800) and the proposed enterprise resource planning budget ($28,516,500 (support account budget for the period from 1 July 2009 to 30 June 2010) plus $12,096,100 (annualized 2010-2011 regular budget)) as both are capital expenditures.

Annex II

Information and communications technology personnel of the Secretariat as at March 2010[a]

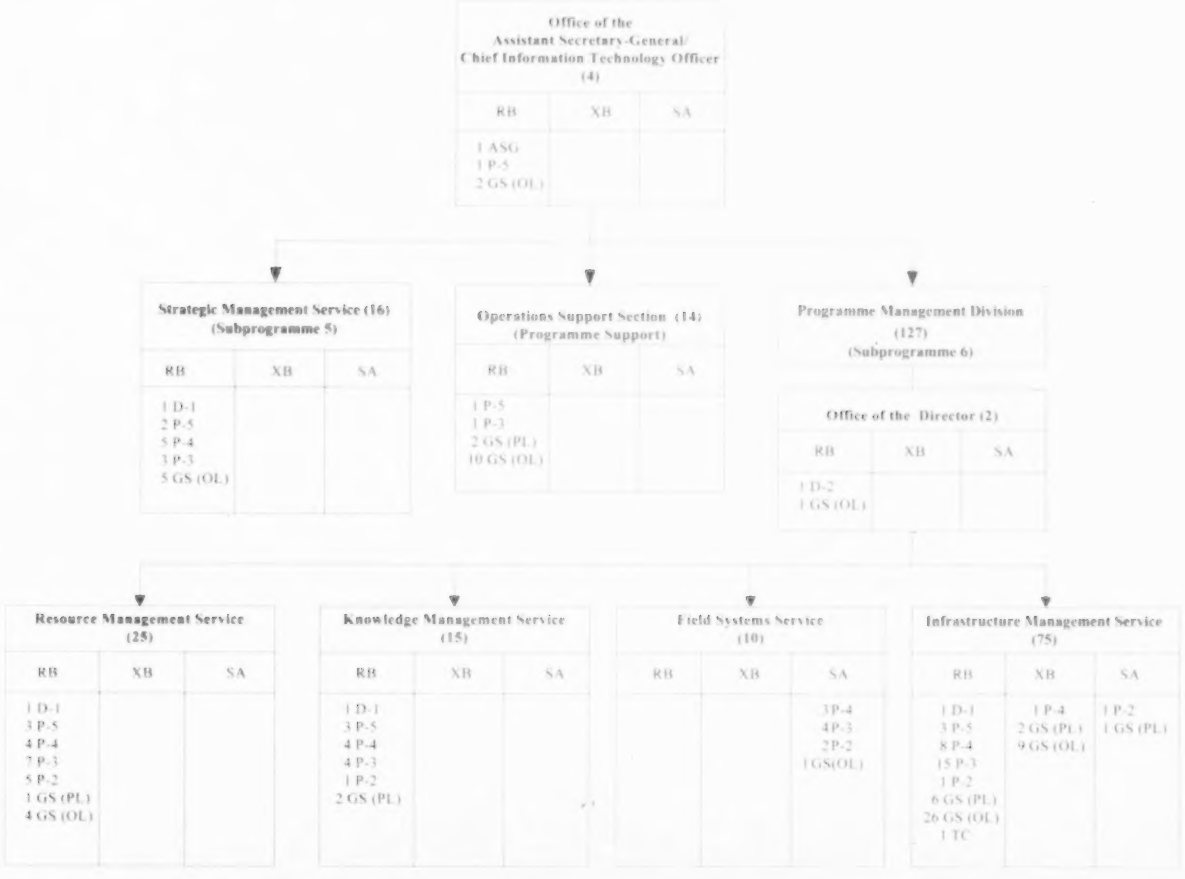
Department/office	*ASG*	*D*	*P*	*FS, L*	*GS*	*Total international*	*Local*	*UNV*	*Contractual staff*	*Total*
Office of Information and Communications Technology	1	6	108		78	115			173	366
Department of Field Support and field missions		2	125	681	21	808	1 065	292	689	2 875
Other departments at Headquarters			154		188	154	2	1	30	375
Regional commissions			33	2	83	35	1		54	173
International Criminal Tribunal for Rwanda			11	31		42	8			50
International Tribunal for the Former Yugoslavia			9		50	9				59
United Nations Office at Geneva			36		84	36				120
United Nations Office at Nairobi, United Nations Environment Programme and United Nations Human Settlements Programme			15		47	15				62
United Nations Office at Vienna and United Nations Office on Drugs and Crime		1	14	2	116	17			6	139
Total	**1**	**9**	**505**	**716**	**667**	**1 231**	**1 076**	**293**	**952**	**4 219**

Abbreviations: ASG, Assistant Secretary-General; D, Director; P, Professional and higher categories; FS, Field Service; L, project personnel; GS, General Service and related categories; UNV, United Nations Volunteers.

[a] Data collected from United Nations departments, offices and field missions in the 2010 ICT structural review survey.

Annex III

Current organizational structure and post distribution of the Office of Information and Communications Technology: biennium 2010-2011


Office of the Assistant Secretary-General/ Chief Information Technology Officer (4)
RB: 1 ASG, 1 P-5, 2 GS (OL)
Strategic Management Service (16) (Subprogramme 5)
RB: 1 D-1, 2 P-5, 5 P-4, 3 P-3, 5 GS (OL)
Operations Support Section (14) (Programme Support)
RB: 1 P-5, 1 P-3, 2 GS (PL), 10 GS (OL)
Programme Management Division (127) (Subprogramme 6)
Office of the Director (2)
RB: 1 D-2, 1 GS (OL)
Resource Management Service (25)
RB: 1 D-1, 3 P-5, 4 P-4, 7 P-3, 5 P-2, 1 GS (PL), 4 GS (OL)
Knowledge Management Service (15)
RB: 1 D-1, 3 P-5, 4 P-4, 4 P-3, 1 P-2, 2 GS (PL)
Field Systems Service (10)
SA: 3 P-4, 4 P-3, 2 P-2, 1 GS (OL)
Infrastructure Management Service (75)
RB: 1 D-1, 3 P-5, 8 P-4, 15 P-3, 1 P-2, 6 GS (PL), 26 GS (OL), 1 TC
XB: 1 P-4, 2 GS (PL), 9 GS (OL)
SA: 1 P-2, 1 GS (PL)

Abbreviations: RB, regular budget; XB, extrabudgetary; SA, support account for peacekeeping operations; ASG, Assistant Secretary-General; D, Director; P, Professional and higher categories; GS, General Service and related categories; PL, Principal level; OL, Other level; TC, Trades and crafts.

Annex IV

Proposed organizational structure and post distribution of the Office of Information and Communications Technology: biennium 2010-2011

Office of the Assistant Secretary-General/ Chief Information Technology Officer (8)

RB	XB	SA
1 ASG 1 D-1[a] 1 P-5 1 P-5[b] 1 P-4[b] 1 P-3[b] 2 GS (OL)		

Executive Office (16)

RB	XB	SA
1 P-5 2 P-4[a] 1 P-3 2 GS (PL) 10 GS (OL)		

Enterprise Management Division (33)

RB	XB	SA
1 D-2[a] 1 D-1 1 D-1[a] 2 P-5 1 P-5[a] 1 P-5[b] 5 P-4 5 P-4[a] 3 P-3 4 P-3[a] 1 GS (PL)[b] 5 GS (OL) 2 GS (OL)[b]		1 P-2[a]

Application Management Division (56)

RB	XB	SA
1 D-2 2 D-1 4 P-5 8 P-4 1 P-4[a] 11 P-3 1 P-3[a] 6 P-2 2 GS (PL) 5 GS (OL) 4 GS (OL)[b]		1 P-5[a] 3 P-4 4 P-3 2 P-2 1 GS (OL)

Infrastructure Management Division (71)

RB	XB	SA
1 D-2[a] 1 D-1 1 D-1[a] 3 P-5 8 P-4 1 P-4[a] 15 P-3 1 P-2 6 GS (PL) 20 GS (OL) 1 TC	1 P-4 2 GS (PL) 9 GS (OL)	1 GS (PL)

Abbreviations: RB, regular budget; XB, extrabudgetary; SA, support account for peacekeeping operations; ASG, Assistant Secretary-General; D, Director; P, Professional and higher categories; GS, General Service and related categories; PL, Principal level; OL, Other level; TC, Trades and crafts.

[a] New post.

[b] Redeployed post.